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## YEAR BOOK OF THE HEATHER SOCIETY

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### THE HEATHER SOCIETY

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### **Editorial**

The past year has seen the formation of another organisation concerned with heather growing. As was reported in the summer *Bulletin*, the inaugural meeting of the British Heather Growers Association took place on 1st May 1986. The name indicates that it aims to further the interests of commercial producers, but ultimately this will benefit all who buy heather plants. At the Council meeting on the 12th August our Chairman said that he was greatly encouraged by the formation of the Association, and agreed to write to John Hall, the Association's Chairman, conveying the good wishes of the Council.

It was David Edge who had the idea of forming the BHGA, and organised the preliminary discussions with a number of other growers. We are fortunate that David has agreed to join the Council. He was formally elected at the AGM at Tetley Hall, Leeds on 6th September.

The work on clonal selection that the BHGA hopes to undertake is similar to that started by the Heather Society at Harlow Car in 1967 at the instigation of the late John Ardron. By 1975 recordings had been made there at twice monthly intervals for six years, and the results were ready for publication. Some of the recording team dropped out at that stage, considering their work complete. John Ardron dragooned a number of northern members into maintaining the plants and continuing the work. So it was that Mr. T. A. Julian, who had joined the Society in 1973, became involved with the trials. In 1977 he was elected to the Council, and joined the Technical Committee. He was Chairman of that committee from 1978 to 1983.

Most of that information on Albert Julian could have been gleaned from the lists of Council and Committee Members in past Year Books, but it gives little impression of the amount of work that this quiet, modest man has done so enthusiastically for the Heather Society. Even now he continues to look after the trials ground at Harlow Car, where he introduced chemical weed control when it could no longer influence the trials results, and carried out experiments with black polythene mulches. He frequently drives the seventy or so miles from Whaley Bridge, and sleeps in the hut overnight in order to give himself longer working days.

During his period as Chairman of the Technical Committee, he controlled the often heated discussions that preceded the publication of the preferred list of cultivars. Subsequently he became involved with the still uncompleted work of preparing for the publication of the International Register, and he has produced a card index of over 1000 cultivars.

When the possibility of setting up reference collections at Wisley and Harlow Car came up in 1978, he was asked to join the sub-committee that was to liaise with those gardens. He has carried out the work of supplying cutting material to both gardens from the authenticated plants on the Harlow Car trial ground. He has also been instrumental in setting up a reference collection at the Grenada Arboretum at Jodrell Bank, where he did much of the planting himself. In 1986 he planted the new reference collections in the Northern Horticultural Society's garden at Harlow Car.

In 1986 he retired from the Council, but fortunately has agreed to continue as a member of the Technical

Committee. Thank you Albert for all you have done, and are continuing to do for the Heather Society.

## From the Chairman

Maj.-Gen. P. G. Turpin, C.B., O.B.E. West Clandon, Surrey.

Why are we stirred to such excitement, whenever we see a piece of yellow or red foliage among our heathers? More heathers have been named because of some variation in foliage than for any other distinction,. More than 80 Callunas with yellow or golden foliage have been given names. And yet in most cases the appearance of yellow foliage in heathers is a sign of discoloration caused by soil conditions or disease, rather than any genetic variation. Healthy heathers normally have green foliage. Sometimes a plant is infected by a virus and for some time an interesting form of variegation appears, but often this disappears after the plant has built up a resistance to the virus. This seems to be happening to Calluna 'Japanese White', which in many gardens has almost lost its attractive variegated foliage.

I can recall at least two occasions when first prizes were awarded at R.H.S. Shows to exhibits with golden foliage, which have owed their brilliant colour to a temporary soil condition and which have reverted to their normal green foliage when planted in suitable soil. No blame to the judges, who can only assess an exhibit as it is presented.

We should always be suspicious when a whole plant

suddenly turns yellow. It might be due to a fungal disease or merely to the presence of chemicals in the soil, to which the plant has suddenly obtained access. At a site in Cornwall, where there are derelict mine workings, a wonderful range of colour foliage heathers can be found—the result of the rich metal deposits in the soil—but they do not retain their brilliant colours when they are transplanted into normal soil conditions. The most likely prospect is a coloured shoot appearing as a mutation or "sport", which, when propagated, will probably retain the characteristic. This is how E. Vagans 'Valerie Proudley' and E. erigena 'Golden Lady' originated—two outstanding foliage plants.

Sometimes a plant will grow in the same place for four or five years without showing any sign of discoloration and then part or the whole of the plant suddenly turns yellow — a from of chlorosis, caused by the lack of essential nutrients or the presence of chemicals inimical to healthy growth.

In addition to the many golden forms of Calluna there are now at least a dozen golden forms of E. carnea. In many cases there is little to distingish one from another. There is only a limited range of colour between the yellow of 'Gold Haze' and the rich orange-red of 'Sir John Charrington' and 'Firefly', or between the colour of E. carnea. 'Sunshine Rambler' and 'Ann Sparkes'. Most of these shades are already represented several times over in our lists of named cultivars. Before we add to this tally, let us be sure that we have got something which is really different and which can add something new to the existing varieties.

## Annual Conference, Tetley Hall, Leeds, September 1986

Mrs. B. Mayne, Barnet, Hertfordshire.

Friday September 5th in Headingley saw an unusual influx of cars from all parts of the British Isles wandering in circles. Later all was revealed. They were looking for Tetley Hall, a very pleasant, but obscure venue in that northern suburb of Leeds. We were greeted warmly by Dr. Barraclough and his wife, had a welcoming tea, settled into our single rooms, and then met friends from previous Conferences. Not so many this year, 39 in all; silver wedding, christenings, and sadly, bereavements had reduced our numbers.

After being officially, but no less warmly, welcomed by our Chairman, Maj.-Gen. Turpin, our first talk was on the difficulties of maintaining Ilkley Moor. Dr. Richard Smith from the School of Geography at Leeds University (see p. 12) pointed out the problems of numbers of visitors versus preserving the moors formed 15,000 years ago. The heather is disappearing, rapidly to be overtaken by the ubiquitous bracken. There is conflict between the Forestry Commission, whose plantations produce acidity, and Bradford City Council who try to provide a water supply for the increasing population. An interesting experiment of three sections of the moor, burnt, fenced off and left to re-seed, produced wonderful stands of Calluna.

Peter Vickers then proceeded to instruct us in a very

down-to-earth way on the art of propagation. "Stick shoots in a mixture of peat and perlite or sand, cover them and leave in a cool place to root. There, no magic, just don't be impatient". Why then do some of my cuttings fail to root, damp off and fail to reproduce our favourite plants? Peter insists we must be doing something wrong — its easy. Good job I only do it for fun!

Next morning, Don Richards from beautiful Lakeland astonished us all by relating how he created his garden by heaving great rocks from a field he bought to prevent it being turned into a pig farm\*. He found Cromwellian relics, and deer found him. After various ploys to keep them away, he finally resorted to a deer fence. Heathers in his garden produce wonderful seedlings. Erica cinerea 'John Ardron' and Daboecia 'Blueless' are two, and in the damp climate they grow profusely.

On our behalf Mr. Richards kindly negotiated with Silvaperl and presented us all with packs of Perlite and Synagol rooting compound. Watch out for our cuttings now!

Mr. L. Knight, Chairman of the Northern Horticultural Society then told us of how he planted the first heathers at Wisley in 1926. He had many ideas for planting heathers under trees and showed examples with slides of how he thought landscapes could be improved. His plantings at Golden Acres Park, a Leeds Corporation garden, which we were to visit, were allowed to cascade down rocks and wander over paths.

<sup>\*</sup> Mr. Richards contributes a shortened version of his talk on pp. 26-29 of this Year Book.

While on our way to the park we were to surprise two unsuspecting gardeners with a visit. Twenty four hours earlier Mr. and Mrs. Ellis had not known of the Heather Society when Pamela Lee had asked them if we could stop and admire their garden. It was a delightful small front garden, planted eight years ago with heathers, a splendid Robinia pseudoacacia favourite confider, Abies koreana, 'Frisia' and my as focal points. The use of large cobble stones in a tiny scree garden was very effective. The lawn was immaculate, but a coach load of admirers could have done it no good at all! The next two hours were spent happily in the park in bright sunshine eating our packed lunches and admiring Mr. Knight's plantings. The many Sorbus were particularly good with their fruits of pink, white and red.

On then to Harewood House with a garden tour conducted by Mr. Jenkins. Gardeners, like policemen, get younger and Mr. Jenkins was no exception. He also has to do spells of duty in the shop and garden centre. A few of the members opted to tour the house, and one succumbed to the heat (yes, really) to snooze in the coach. The gardens were really past their summer flush, but a gorgeous Eucryphia stood in full bloom. There was a tantalising sight of peaches and grapes in the greenhouses, fully ripe and destined for the house, and outside an amazing variety of Hostas. Until recently the rock garden had been neglected with willow herb six feet high, so it was cleared with chemical weedkillers and then replanted. A quick dash round the garden centre and shop ended a very pleasant afternoon.

Saturday evening question time after dinner was lively with discussions ranging from how to deal with Honey Fungus to what justifies giving a name to a new

heather. Mr. McClintock stressed that we should consider not just e.g. a new colour but other distinctions such as height, length of flowering time, hardiness, freedom from disease, garden worthiness etc. He brought from Sweden a delightful mini-calluna 'Minioxaback' just right for a sink garden. Heath-loving plants like crowberry (Empetrum nigrum), cowberry (vaccinium vitisidaea), cranberry (V. oxycoccos) and Arctostaphylos species were produced and examined.

After the A.G.M. on Sunday morning, conducted so smoothly by our Chairman, Mr. McClintock, in the absence of Mr. Yates due to indisposition, led a discussion on Daboecia. It was lively - everyone has their favourites. Next to enthrall us was Mr. C. Margrave with a potted history, and the aims, of Harlow Car, the yorthern Horticultural Society's garden. In spite of catering for 70,000 visitors in a good year with the resulting wear and tear, they maintain three National Collections of Hypericum, rhubarb and heathers. There were trials of old vegetables for the Henry Doubleday organisation, a collection of roses for the R.N.R.S. trials of annuals for Flora-Select and of Delphiniums, and the northern reference collection of E. carnea darleyensis. It makes a daunting tasks, with just a few gardeners, and trainees from the Y.T.S., We were to see all these collections when, after an excellent lunch and the annual jostling for space for the group photograph (why is it there is always someone missing?) we boarded our coach for Harrogate and Harlow Car.

The old Heather Trials ground came first, plastic bags at the ready. How sad it looked after seeing it in all

its glory a few years ago. Elderly plants, lots of plants dead and hardly a label to be seen. Some of the more hardy plants persisted and were a blaze of colour. We toured the rest of the gardens, and many a heather label was carefully scrutinised, and in some cases corrected, by the experts. Mr. Julian, a member to whom we owe so much for his hard work, galloped a few of us up a hill for an inspection of the new *Calluna* collection planting. A large rectangle, cut from a meadow on a wind-swept site, divided into four beds which housed four plants of each cultivar. Some were flowering, although tiny, and surviving there will surely earn them the title hardy. Another lovely afternoon's outing and we all felt we would like to linger, but dinner awaited us.

Our first Sunday evening speaker was Dr. Griffiths who showed us some of the results of his hybridisation (see p. 42). After explaining his methods we were shown his plants (who but a botanist's wife would tolerate plastic bags over the plants to prevent bee pollination). E. manipuliflora x E. vagans produced differing offspring, e.g. a pink flowered, a paler pink and a dumpy plant. E. ciliaris x E. tetralix has produced a white hybrid, and Dr. Griffiths insists he is going on trying.

Mr. Mason, Garden Manager or Head Gardener at Harewood House, then arrived, late, having dashed from Cardiff. Our original seating arrangements were inconvenient for viewing his slides and the resulting movements and hilarity set the scene for Mr. Mason's humorous account of his career as a gardener and his efforts to turn his own garden into a show piece.

The Conference ended with Maj.-Gen. Turpin

bidding us farewell for another year and adding it had been a happy conference. It had, we all agreed. Dr. Barraclough and his wife had done a splendid job of organising. We had a mixture for the expert and the amateur, and time to chat. Do try and come to a conference one year, you will be welcomed. Like me, definitely amateur, you might learn something new, and if you are reading this you must be, like David my husband and me, hooked on heathers.

## Heather moorlands: origins, management and recent changes Dr. Richard Smith, School of Geography, University of Leeds.

The local dominance of members of the Ericaceae in heath and moorland areas, while reflecting the ecological tolerances of this group, has depended also on the history of land use. One has to realise that landscapes associated with heath species, whether in the Ashdown Forest, the Llandegla Moors or even the Isle of Rhum, interspersed as they may be with grasses, sedges, moss and limited tree growth, always represent some degree of human impact and are no more natural in concept than is agricultural land. Furthermore, while some areas dominated by common ling are far more extensive now than at any previous time, other areas are in a state of decline or, as in some lowland heaths, at risk of scrub encroachment unless active management is pursued. If we go back in time, we have almost certainly to visualise a different structure in moorland plant communities than we see today because of the different use made of

common land in former times. However, we can be fairly sure from place name evidence that heather-dominated communities have been widespread, or provided notable local features, from early mediaeval times. Names such as Lingfield and Malham Lings utilise the original Norse name; many incorporate the element 'heath' while others such as 'Black' moor carry the allusion of heather dominance.

But when did moorlands first come about, and have heath plants always been in Britain? The second question can be answered by saying that, apart from the extreme south and the Atlantic littorals, all remaining areas of the British Isles would have witnessed a reinvasion of the different indigenous heath plants some 12,000 years ago from the cold steppe land that extended part way to the Mediterranean. Empetrum (crowberry), Calluna and the Ericas. together with the various species of Vaccinium, are all present very early on in what was an open landscape of low shrub growth with willow, dwarf birch, juniper and other species. This situation was destined to alter rapidly as birch and other trees formed forests throughout Britain from about 10,000 years ago. Although these forests never completely covered the mountainous and most exposed areas they did lead to a severe restriction of the previous open habitat flora while introducing many changes in plant and animal life to which human hunting parties became attracted.

It is probably to the use of fire by Mesolithic human cultures that we owe the origin of our first moorland landscapes; such was the case on Dartmoor, the North Yorks Moors and other areas. But this is not to say that once cleared of forest the trees never returned — in many

moorland areas there is evidence of subsequent regrowth which simply reflected the changing human pressures. Clearance of forest resulted from the need for firewood and construction timber, while ground actually cleared by fire subsequently provided excellent browse for populations of deer and other animals. Some, such as the aurochs may have begun their domesticated existence by first being attracted to and then being corralled within such areas. But forest destruction was an opportunity for many herbs and low shrubs to reinvade, among which the heaths were for a long time a very minor component. Forest clearance was a major factor contributing to the formation of peat which, in consequence, now buries not only former relics of the old woodlands, but the artefacts of cultures responsible for their decline. The early moors were then much wetter, even semi-aquatic, environments, and did not present the relatively firm terrain we know today. A factor which aided and abetted this wetness was the increasingly maritime humid climate of Britain as sea level rose to reach its present level around 5000 vears ago.

From 3000 BC onwards there was a more sustained attack on woodland resources with the spread of settled agriculture and the formalised land divisions that accompanied it. Pollen records in peats indicate a particularly marked rise in ericaceous pollen from the Bronze and Iron Ages when, as a consequence of widespread land clearance and agricultural exploitation, soil conditions are believed to have deteriorated. There seems little doubt that many areas have seen a continuity of moorlands, well represented by heath species, from the Bronze Age, despite periodic minor tree invasions. The moorland bogs of the Bronze and Iron Ages were, if not becoming modified by man's activities, drier and more

amenable to the spread of heathers than earlier because the peat ecosystems had become more elevated from the direct influence of flooding or ground water.

The Roman period was notable for its forest consumption, often for the purpose of mineral smelting, while the creation of routes and improvement of pre-existing prehistoric straight tracks exercised further influence on the fragmentation of landscapes. Intensive agricultural exploitation for the legions was followed by agricultural land abandonment on departure, which almost certainly was a stimulus to the advance of heathers; and it would appear that this kind of periodic land use change has been a key factor in maintaining the heathers throughout historical times.

From medieval times heath and moorland becomes synonymous with "the commons", a status it may long have endured, for with this concept goes the idea of no particular form of management beyond limiting the rights of individuals to its use. Indeed many examples of heath have arisen because laws governing the exploitation of forests gradually fell into abeyance — particularly so around the period of the great plagues. Our upland moorlands have in very general terms passed from being parts of tribal homelands to the large estates of manors and subsequent owners. The medieval use of the uplands by the Cistercian monks was but one phase in their long history of exploitation.

As the Industrial Revolution gained momentum parts of the wilderness were taken into more intensive use and became part of the general pattern of enclosure. In the 18th and 19th centuries many small holdings thus developed, a proportion of which was related to extrac-

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tive industries such as lead mining, and when the latter, together with cottage textiles, declined towards the end of last century the farms themselves could no longer provide an adequate income, leading to ultimate abandonment. More and more uplands areas thus became absorbed once again into large estates whose interests were in grouse and sheep. These large estates undertook drainage and burning to promote heather. Burning encourages germination of young heather from dormant seed and new growth from the base of old stems, and this is best carried out every 8-12 years. If the age of the heather gets too advanced, recovery takes much longer, not least because with a larger amount of combustible material the fires may burn hotter and longer, destroying roots and the seed bank.

However, changes over the last century, including those just mentioned, have also led to the expansion of species which threaten heathers and, indeed, the productive use of moorlands. Bracken has enormously on account of its invasion of drained and burned terrain, its relative unpalatability and the fact that it is no longer controlled by cutting for animal bedding, or trampled by heavier farm animals. A consequence of this spread of bracken is the reduction of available good grazing land on the valley sides where its infestations are greatest. The heather moors have therefore been under heavier grazing attack and it seems likely that the expansion of species like crowberry (Empetrum) and mat grass (Nardus) reflects an exhaustion of the more palatable species. This process is partly, then, a matter of restricted good grazing area and partly the selective preferences of sheep. But it is also worth commenting that the numbers of sheep actually grazing have fluctuated a great deal and at certain times have

undoubtedly been excessive, such as during wartime. It is also difficult to regulate the grazing in a 'commons' situation, even if one could persuade the farmer of the consequences of his actions.

Many of our heather moorlands have in fact been in a precarious state of management since the Second World War. Various factors account for this but notably the decline in numbers of gamekeepers and the overall costs of running grouse moors. Without the easy access to labour it is more difficult to respond to the relatively few ideal occasions for moor burning in the course of the Autumn to Spring periods permitted. The result has been a backlog of burning which can only be overcome now by making very large burns on each occasion. These are quite unsuitable for the nesting and feeding behaviour of grouse, while running the risk of initiating erosion. The large amount of over-age heather also presents a considerable fire risk in dry summers as the destructive fires of 1976 demonstrated.

But perhaps even greater threats to moorland lie ahead, for as a period of agricultural decline becomes more established, further forestry schemes seem sure to proceed. While this could be regarded merely as a return to trees after several thousand years of moorland, we are mainly involved with exotic species of conifer which are capable of exploiting wet sites and peaty terrain as well as the better, sloping, land. We must hope that if such developments do take place on a large scale we can preserve some large areas of open vistas while accepting that, if planned in an ecologically responsible way, new forests could introduce a greater diversity of wildlife over large areas which have at present very restricted plant and animal populations.

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Extract from Linnaeus's Öland and Gotland Journey 1741, as translated in *Biological Journal of the Linnean Society* for June 1983, p.190. August 15th.

"Heather [The District Governor, General-Lieutenant Anders Koskull] told us is good for sheep, but the heather is trampled down by the sheep and is destroyed by their dung, which is very probable if the sheep are in too great abundance. In Skane we have seen heaths being burned every third year, in order to provide the sheep and cattle with tender heather".

## Stellate Cross-leaved Heaths

David McClintock, Platt, Kent.

Cross-leaved Heath typically has its flowers in drooping umbels. From time to time one comes across plants in which they are held horizontally or even somewhat erect, and the corollas tend to be, or look, narrower.

Two of these have been propagated as cultivars. The first was the Letts' 'Pink Star', which they found "in a roadside field in Cornwall". I have a note, source untraced, that it was known by 1963; but the name appears first in print, so far as I know, in John Letts's Handbook of August 1966, page 102. There are coloured illustrations of it in Harry van de Laar's Heather Garden of 1978, plate 9, in Geoffrey Yates' Gardener's Book of Heathers of 1985, p.128, and opposite p.24 of the 1986 revised Wisley Handbook: Heaths and Heathers.

The second is 'Helma', called after Rinus Zwijnenburg's daughter. He saw it in 1965 on the Kampina Heath between Boxtel and Tilburg, and started to distribute it two years later. Its flowers are said to be paler and the plants to grow taller. It received a silver medal in Holland in 1968. You can see its depiction in colour in the Proudleys' Heathers in Colour of 1974 plate 50; in Harry van de Laar's Heather Garden of 1978, plate 8 and in the Heidelexicon produced by the German Gesellschaft der Heidefreunde in 1984.

Hugh Nicholson had a variegated sport on 'Helma' in his garden in 1981, which has since been grown on by Ray Warner at Barncroft Nurseries. As a result of propagating from variegated parts of successive plants, he tells me, Ray seems to be getting an increase in colour of the cream/pink new growth. But so far it lacks a name.

In addition to the above, I have in the herbarium here samples of this form from half a dozen places in England and Ireland, but it does not always show clearly on pressed plants. Fresh it is unmistakable.

With all these occurrences — and I have not specially searched other herbaria, a botanical name is clearly needed to cover this distinct form. So, Erica tetralix f. stellata was formally published for it in 1986 in Acta Horticulturae, No. 182, p.283 with the simple note "typo differt floribus horizontalibus vel erectis", in a paper I had read mentioning this in August 1985 during the first International symposium on taxonomy of cultivated plants at Wageningen. A gathering of 'Pink Star' at Harlow Car on 7 August 1974 is the type.

## The Silver-leaved Forms of Calluna.

Maj.-Gen. P. G. Turpin, West Clandon, Surrey.

(By an odd coincidence, at the same time as this article was being written, Mr. H. Blum published a similar account of Callunas with silver-coloured or grey leaves in the Dutch periodical *Ericultura* (No 59). There was no collusion between the two writers, but, obviously, they relied to a great extent on the same sources.)

In Calluna, a monograph on the Scotch Heather (1940) Dr. W. Beijerinck described the various forms and sub-forms of Calluna vulgaris, which were known to him. He placed them in two groups: var. genuina and var. hirsuta. The epithet genuina, meaning "authentic". was first used in 1843 by Regel to describe the typical form of Calluna vulgaris; and Waitz used the word hirsuta in 1805 to distinguish the form with hairy stems and leaves. Beijerinck quoted tomentosa, pubescens, ciliaris and incana as synonyms of hirsuta. Under the heading var. hirsuta he listed only nine forms or subforms: typica, pilosa, lutescens, compressa, albiflora, pallens, Alporti, coccinea, and Bealeae. All the rest he placed in the variety genuina. Some of these epithets have been retained as cultivar names, e.g. 'Coccinea'. It is surprising that Beijerinck included lutescens (for which he quoted 'Strlei Aurea' as an example, although he placed 'Serlei Alba' under var. genuina). Nor could Alportii or Bealeae really be classed as "hairy" forms of Calluna.

The silvery appearance of this variety of *Calluna* is due to the multitude of hairs which clothe the leaves and stems of the plants and reflect the bright light rays. For

the same reason many of them look lank and dowdy in dull and wet weather.

The cultivars of silver-leaved Callunas which are grown today can be grouped in a number of ways. Some have mauve or lilac-coloured flowers. Some have white ones. Some have foliage which is distinctly silver in appearance, while others are more grey-green in colour. Habit varies from tall erect plants to spreading and dwarf varieties.

By its very name Calluna vulgaris 'Hirsuta Typica' can claim to be typical of the tall silvery group with mauve flowers. It is a vigorous grower and makes a tall thick bush with many side-shoots. It retains the colour of its silver foliage well throughout the year. The mauve flowers (H2) are well shown off by the foliage. Many claim that this is still the best of its group. It is reputed to have come from Morayshire, but similar plants are not uncommon elsewhere in the wild. Good silver-leaved forms can be found on Wisley Common. It was given an Award of Merit in 1962 and a First Class Certificate in 1964.

'Silver Queen' is so similar to 'Hirsuta Typica' that it is often difficult to tell them apart. The growth is similar. Perhaps the flowers are a little more lavender (H3). The foliage appears to suffer more in wet weather.

'Jan Dekker', a Dutch introduction in 1974, does not grow as tall as the last two cultivars, but is equally vigorous. It is more spreading, with many side-shoots and the foliage is rather more grey The mauve flowers are slightly darker than those of 'Hirsuta Typica'.

Other cultivars which are similar, but with no particular distinction, are 'Parson's Grey Selected' and 'Dart's Silver Rocket', with grey-green foliage.

'Silver Stream', which is well named, has a character of its own. Although a tall and vigorous plant, it has a tendency to spread sideways and even to trail. The flowers are similar in colour to those of 'Silver Queen'. It appeared as a seedling in Mrs. Cowan's garden, near Farnham, and was introduced by Primrose Hill Nursery, Haslemere.

'Dart's Squirrel', which has reddish tips to its foliage in spring, was introduced by Darthuizer's Nursery in 1976 and 'Grizzly', which is said to be similar to 'Serlei Rubra', belong to this group. So too does another recent Dutch introduction, found by S. Ketelaar as a seedling and named 'Stranger' in 1983. It is described as having light grey foliage with yellowish tints in the spring, with a distinctly silvery appearance.

The next group consists of cultivars which are not quite so tall, but have an erect habit. 'Silver Knight' is typical of this group. It produces long spikes of silvery foliage with very few side-shoots. The colour of the flowers, which are lavender-mauve (H3) complements the silvery grey of the leaves.

'Oxshott Common' has a similar erect habit and can grow to more than two feet tall. It makes a very effective group in the middle of an island bed. The flowers, which are borne very freely, are the same colour as those of 'Silver Knight' (H3).

To these we can add the late-flowering 'Olive

Cowan', which has a similar habit of growth and the same coloured flowers. It was introduced by the late Mr. J. W. Archer.

A trio of upright-growing cultivars which make a particular appeal by the soft blending of the flower-colour with the grey foliage are 'Silver Rose', 'Silver Sandra' and 'Spook'. When well grown 'Silver Rose' has an almost ethereal quality, the rose-coloured flowers adding a misty sheen to the silvery foliage. 'Silver Sandra' has paler flowers but makes a delightful effect with its delicate grey foliage. 'Spook' is a fairly recent introduction, with long graceful flower spikes, similar in growth to the other two, but giving an overall pink effect when planted in large groups.

'Coccinea', an old cultivar, has the darkest flowers of all the grey-leaved varieites (H10). It makes a neat mound in which the purple flowers contrast well with the silvery foliage.

Among the semi-prostrate forms are 'Silver Cloud', 'Glendoick Silver' and 'Grey Carpet'. These all have a tendency to produce numerous side shoots, which give the plants a spreading habit. In an open position they will carpet the ground, but if grown close to other plants and given their head they will lose some of their prostrate habit. Their flower colour is H3.

'Grijsje' is a recent introduction from Holland, found as a seedling by A. Bosch of Westerlee, with a similar compact and spreading habit.

The true prostrate forms have, in the past, been described as hirsuta compressa - or hirsuta compacta.

'Sister Anne' and 'Dainty Bess' are the two best examples of this group. The former was found on the Lizard, where constant wind and wild weather have compelled the heather to adopt a compact ground-hugging form, in order to survive. 'Dainty Bess' originated in the United States. Both are fairly floriferous with flowers coloured H2. 'Sister Anne' is inclined to be the more vigorous and will, in time, form a hummock up to 2 feet in diameter. Other compact forms are 'Chindit', 'Bess Junior' and 'Pewter Plate'.

Although most of the silver-leaved Callunas have mauve flowers, there are some half-dozen named varieties with white flowers. The best of these, for its silver effect, is 'Beoley Silver', which has more brilliant silver foliage than any other Calluna. It is of medium height with branching stems. The flowers and leaves, being almost the same colour, blend together in a sheet of white. When in full flower it is often difficult to distingish between the flowers and the leaves.

'Hirsuta Albiflora' is an old cultivar, which still holds its place. The foliage is more grey-green than silver. It is a tall-growing cultivar with long spikes and is most effective in large groupings. 'Tomentosa Alba' is another old cultivar, which is not often seen nowadays. Its description suggests that it is very similar to the last-named.

Two comparatively recent introductions, 'Anthony Davis' and 'Alison Yates' have a similar habit and are vigorous growers. They are both first-class plants with little to choose between them. 'Anthony Davis' is a great favourite of flower-arrangers. These two have tended to displace an older cultivar, which used to be popular, 'White Gown', which is a tall vigorous plant. It tends to

become straggly, unless it is carefully pruned.

A recent introduction from Holland, a white sport on 'Silver Knight', named 'Velvet Fascination', has the same habit as its parent, but with white flowers. It was found in the Hoekert nursery at Oldebroek and named in 1983.

'Snowflake' is a low-growing compact cultivar with grey-green leaves and white flowers, recently introduced from the United States.

Finally, two cultivars, 'Silver King' and 'Silver Spire' bely their names. They were so called not because of the colour of their foliage, but because of the silvery appearance of their long flower spikes. They do not belong to the variety *hirsuta*.

A note of caution. All the cultivars mentioned, like other heathers, may modify their habit, depending on the particular environment in which they are growing. Some will flourish in one set of conditions, where others will do less well. The descriptions given here may have to be modified as a result of the different circumstances under which they are grown.

# From Wilderness to Heather Garden

Don Richards, Eskdale, Cumbria

One evening the local farmer proposed to my neighbour and myself, that we should buy the land at the back of our houses. It was steep and rocky, and was covered with an impenetrable jungle, mostly gorse, brambles and bracken. As he said, it was completely useless, but if we did not buy it, he would put a row of pigsties outside our windows. After a few hours of mostly good humoured argument, I bought my share, some two and a half acres for £149.

We are quite close to the centre of Eskdale Green village, and for many years before the council collected refuse, locals would go as far as possible and throw their rubbish in. One medallion I found, the size of a milk bottle top, was "to commemorate the third time in 3 years failure to obtain the abolition of the Commonwealth and Trust Act". This dates from the Cromwellian period when Catholics and Nonconformists were barred by the Act from Parliament; only Church of England were allowed entry ... but fancy commemorating a third failure!

I have never found much spare time, but it is good therapy after the hassle and frustration of business to indulge in heavy physical labour. My usual tools were mattock, for digging up trees and bushes, and crowbar, for shifting rocks. Bedrock usually looks right, fortunately, but loose boulders have to be levered about until they

look right. There was a "spring", actually the open end of a land-drain, and other features that showed promise, but for some time I dared not admit that I was going to try to make a garden of it ... probably it would prove impossible ... no-one could ever dig it!

After clearing I used Paraquat weedkiller wholesale ... with a dribble bar quite large areas can be covered quickly. Even later, planted up with heather, they can be moved to one side with an ordinary fire shovel and weeds underneath killed. The only plants not killed are mosses, and they soon formed a most agreeable ground cover. Nowadays I use Roundup (Tumbleweed) for the first clearance, which usually kills green bracken with only one application.

Testing showed a pH over most of it around 4.5, ideal for heathers, and I planted up some beds near the house. There were some failures, especially 24 Erica cinerea 'C. D. Eason'. I found that under the surface there were tons of old plaster rubble from houses damaged in the war. Also the "spring" was strongly alkaline. Farmers treat all the land drains with lime to keep them free-running.

There is far more rock than soil, and the rock is granite. We tend to look on rock as inert, but granite contains all the elements plants need for growth, except nitrogen, and that comes in sufficient quantity for heathers in thunderstorms.

We argue whether or not to use fertilizers. If one gardens on silica sand, like the Dorset Heath we saw in 1979, then the answer must be "yes", and the nurseryman can get bigger reliable plants more quickly, but I

never use any on my heathers outside. Well-fed heathers reach maturity, and old age, more quickly. Nitrogen especially reduces the proportion of flower to leaf and also leaves stems more vulnerable to frost, and they split.

With a large area and limited resources, shrubs and trees were grown from seed. RHS seed distribution provided five different *Rhododendron* species, and a packet of seed from Suttons nearly 100 Exbury hybrid Azaleas. There are also such interesting specimens as *Callistemon* (Bottle-brush), *Ginkgo*, etc. Friends also gave me cuttings, and some came from trips abroad.

As it matured, the effect was quite gratifying, not least because the wild life found it much more attractive than the old jungle. Of reptiles there are frogs, toads, newts, lizards, slow-worms and adders. The bird population is very varied, but strangely we seldom see a house sparrow. A buzzard sometimes surveys the scene from one of my trees. Deer are beautiful, but evil, and eat to damage rather than from hunger. Six new Camellias were quickly destroyed, the leaves eaten and the stems chewed but an old Camelia some 12 feet high is rarely touched. My next big job is a deer-fence.

With such a variety of heather planted, the most common weeds now are heathers. The vast majority are rubbish, but every year one or two are of sufficient merit to propagate. The moist atmosphere of Lakeland, and sharp drainage particularly, suits the Daboecias, and their sticky foliage make them unpalatable to deer. A white ('Early Bride') showed blooms in every month of one year.

I find a clear red particularly attractive, and was

growing on six red *E. cinerea* plants. One was selected by Geoff Yates and named in honour of John Ardron. This was particularly apt because when we were wandering in the Pyrenees he said he hoped to find a good red.

If any of you find yourself in this area, you are welcome to enjoy my jungle with me.



## Heather in Ontario

Barrie Porteous, Agincourt, Ontario.

After emigrating to Canada in 1968 I settled in Toronto and, over the years, gradually developed an interest in gardening. In 1970 I purchased some lakefront property 100 miles north of the city and, after clearing out the bush, was able to establish a garden there. Contrary to popular opinion Toronto is blessed with a benign climate and residents enjoy warm cloudless days, if not all year, then at least for one or two months during the summer. The climatic conditions at the garden up north are a very different matter. Winter temperatures, almost without exception, will drop to -35° to-40°F for several days at a time and-25° to-35°F for several weeks throughout January and February. While this excludes the cultivation of dates and bananas, so common in Toronto, there are some advantages. Snow cover generally starts in mid November, averages 12 - 36 inches, and then departs in mid to late April as temperatures increase. In this, the winter of 85/86, we have had very unusual conditions with over 60 inches of snow. As a result there will likely be very little die-back and a good display of bloom should be guaranteed. In other winters, however, we have had as little as 6 inches

of snow by mid-February and, although no plants have been lost, there has been considerable damage. Rainfall throughout the summer and fall is sufficient to eliminate the need to water and summer temperatures rarely exceed 80°F. The soil is sandy, low in humus, with a pH of 5.5 to 6.0. All in all, with the exception of winter lows, conditions are fairly conducive to the growing of heather.

Having decided that heather could be grown at the cottage, in spite of all the advice of local experts, many of whom had never seen a heather, one problem remained - where to get them? With the exception of Erica carnea 'Springwood White' and 'Springwood Pink', I could find no nurseries who carried plants. I eventually did locate a speciality nursery in the Niagara Peninsula. However, most of my 300 plants have had to be flown in from the west coasts of both Canada and the United States. Since this involves some cost, a fact which has not escaped my wife's eagle eve. I do take some precautions in order to get the plants through the winter. This generally involves the application of a generous mulch of pine needles, particularly around the taller growing varieties. While this effectively raises the height of the snow cover, some plants are still exposed for much of the winter. Fortunately they are mainly fall blooming varieties which benefit from the "pruning". While I have not lost a single plant to winter cold, sooner or later there will be an early cold snap before there has been much accumulation of snow. The results should be interesting although, based on my experience to date, I am sure that many of the Calluna vulgaris, Erica carnea, E. tetralix and E. vagans will come through without a great deal of trouble. I expect that more plants are lost in the winter due to desiccation caused by exposure to sun and wind,

than to just too cold temperatures. Those that I have grown successfully, some for as long as five years, are

Calluna vulgaris

'Alba Plena' 'Gold Haze' 'Radnor'
'Alportii' 'H. E. Beale' 'Red Wing'
'Aurea' 'Humpty Dumpty' 'Robert Chapman'

'Beoley Gold' 'Kinlochruel' 'Rosalind'

'Blazeaway' 'Kuphaldtii' 'Serlei'

'California Midge' 'Lyndon Proudley' 'Serlei Aurea' 'Cuprea' 'Martha Hermann' 'Sister Anne' 'County Wicklow' 'Mousehole' 'Sunset' 'Tib'

'Dainty Bess 'Mrs Ronald Gray' 'Tom Thumb'
Junior' 'Mullion' 'Underwoodii'
'Elsie Purnell' 'Peter Sparkes' 'Valorian'

'Foxhollow 'Pygmaea' 'White Lawn'
Wanderer'
'Foxii Nana'

'Gold Flame'

Erica carnea

'Ann Sparkes' 'Pink Spangles' 'Springwood Pink' 'Aurea' 'Pirbright Rose' 'Springwood White'

'Eileen Porter' 'Ruby Glow' 'Vivellii'

'King George'

Erica cinerea

'Atrorubens' 'Coccinea' 'Golden Drop'

'Cevennes' 'Eden Valley'

Erica x darleyensis

'Furzey' 'George Rendall' 'Silberschmelze'

Erica tetralix

'Alba Praecox'

#### THE HEATHER SOCIETY

Erica vagans 'Birch Glow'

'Mrs D. F. Maxwell' 'St Keverne'

Erica x watsonii 'Dawn'

Rather than simply growing heathers wherever I have space, I have attempted to combine them with other plants to give a mosaic of colour and texture. Bearing in mind that hardiness is a potential problem and that large shrubs cannot be protected above the snow line the following evergreens have proved attractive both amongst, and as a backdrop for the heather.

#### Yellow

Various Chamaecyparis obtusa and pisifera, selected Thujas and Taxus baccata 'Aurea'.

#### Blue

Abies concolor, A. lasiocarpa 'Compacta', Chamaecyparis pisifera 'Boulevard', Picea pungens 'Hoopsii' and 'Montgomery'.

#### Green

Various Chamaecyparis, Pinus, Thuja and Tsuga.

It may well be that one year an early cold snap will cause considerable damage or perhaps even substantial losses, however, I doubt that this will happen. I know that every winter it is going to get very cold and as a result I take steps to protect the plants. Gardeners in milder climates generally base their levels of protection on the average winter temperatures, not on the lows which occur perhaps once in every five, ten or even

twenty years. As a result, borderline hardy plants will not survive, as was the case just last winter when a severe cold snap struck southern England, an area reputed to have an even milder climate than Toronto. However, that is not really the point. The idea of gardening is to have fun and that, when my wife allows, is exactly what I am having.



## Heathers in New Zealand

Cynthia Aston, Taumaruni, New Zealand

New Zealand has no indigenous heaths or heathers (Calluna, Erica or Daboecia), though other Ericaceous genera such as Gaultheria and Pernettya, and of the related Epacridaceae Cyathodes and Draco-phyllum are well represented throughout the country and form a significant part, particularly of the subalpine and scrubland communities.

This country is well-known for the ease with which exotic plants naturalise and displace the native flora. This is true of heaths, particularly the following species.

Erica lusitanica, known here as Spanish Heath, has become a serious problem in many districts. An intriguing story traces its spread from dried-up flowers in the cemetery at Picton, at the extreme northern end of the South Island. It first appeared on the denuded soils of Queen Charlotte Sound, then spread across Cook Strait to Wellington, and thence north, to become a declared noxious weed in many North Island districts. It seems less widespread in the South. I can remember as a small girl in Wellington, in about 1930, seeing a few plants

growing among gorse. It is not mentioned in Cheese-man's list of introduced plants (early 1900's), so must be a relatively late introduction. It is a beautiful shrub and useful to bee-keepers because of its very early flowering, though the bees prefer to work it when the flowers are starting to brown off.

Not far from where I live, on the plains surrounding the great volcanoes Ruapehu, Tongariro and Ngauruhoe, is a vast area of Scottish heather (Calluna vulgaris) with smaller areas of Bell-Heather (Erica cinerea). These were certainly firmly established by the early 1900's and are listed by Cheeseman. It is regrettable that they have largely crowded out the very interesting native communities of subalpine shrubs and ground orchids, though the flower display in late summer is lovely. White forms of both species are quite common. Bee-keepers sometimes move their hives to this region, to take advantage of the late honey flow. The Calluna particularly has spread out of its original locality to some extent, but much less so than the Spanish heath, probably because it is less adaptable to varying soils and climate.

At least two Cape Heaths have also become naturalised in New Zealand. A beautiful pink species (Erica baccans) has for many years grown on poor soils round Dargaville in the sub-tropical far north, turning the hills bright pink when in flower. Its origin seems rather obscure. One source traces it to "Scotch heather", both pink and white, which was planted by a Te Kopuru farmer's wife last century. I feel this may have been confused with another introduction credited to a Turkish gum digger who grew the heath by his shack on Turkey Flat Road. It seems unlikely that the Scottish

plant would have survived in the warm coastal climate of Te Kopuru. On the other hand the early gum-diggers were a pretty cosmospolitan lot, and it is quite possible that *Erica baccans* could have been introduced by the old Turk,

There is, or was, also a vigorous Cape Heath with tubular greenish white flowers which grew on dry clay hills around Eastbourne near Wellington. Possibly there are other "escapes" in the way of Cape Heaths in other parts of New Zealand.

As for garden cultivation of heathers in this country, I should say that they are one of the most widely cultivated groups of plants. For a small country we have an extremely wide variety of soil and climate, and there seem to be heaths to suit each one. Garden centres stock them in large numbers, probably because of the ease with which nurseries can mist-propagate them from cuttings. They are popular plants for small gardens because they give immediate colour and most of them do not outgrow their space too quickly.

The Callunas and European Ericas do well in South Island, and in the North Island as far north as the Waikato district. The foliage forms of Calluna colour particularly well in Canterbury, due to a dry climate and cold winters. Districts with limestone rocks seem to be less limited to the lime-tolerant E. carnea types than might be expected. This may be due to the happy paradox which gives some such districts limestone rocks without much "free" lime, and consequently neutral soils, or in the case of soils formed from areas of bush, even slightly acid. In Masterton in the Wairarapa district, for instance, I have seen magnificent plants of the

Cape Heath E. canaliculata. Throughout the Auckland area and in the Northland, Cape Heaths grow well wherever the drainage is good. The beautiful yellow E. cavendishiana grows excellently in Kaikohe.

The Daboecias for some reason are less widely grown. They perhaps do not make the mass of colour when in flower that the hardy Ericas and Callunas produce, but I like their almost ever-blooming habit. In my garden they self-sow almost too freely. I grow *D. cantabrica* f. alba, and 'Praegerae' and *D.* x scotica 'William Buchanan'.

The Taumarunui area where I garden is extremely sheltered from wind as it lies in a natural hollow. The humidity is high, the rainfall heavy and spread fairly evenly over the year, the winters short but cold and the summers often extremely hot. Fortunately our volcanic soil is free-draining. All the hardy heaths grow well. My plant of E. x darleyensis is nearly forty years old, about three metres in diameter and has built up into a dense mattress one metre thick. Every year it has to be curbed with a spade round the edges. The coloured Callunas like 'Blazeaway' do not colour well with me, too much wet I suppose. The double forms such as 'H. E. Beale' and 'Kinlochruel', and 'Darkness' are good value. Probably the best show of flowers is from the E. vagans 'Mrs D. F. Maxwell' and 'Lyonesse'.

Even some of the Cape Heaths will grow here, where one can find a suitable micro-climate, good drainage and probably a bit of luck with the season. Our out-of-season frosts, particularly following on a wet spell, can be devastating. The Cape Heaths tend here to be short-lived, but some I have grown with reasonable success are

E. oatesii 'Winter Gem', E. verticillata, E. parkeri (\*), E. cruenta and E. wilmorei. They are so beautiful that it is always tempting to have one more try.

(\*The name E. parkeri is not listed in Ericas in Southern Africa by H. A. Baker and E. G. H. Oliver. It is not known to us. Ed.)

## A letter from Australia

Mrs A. Parris, Drouin, Victoria

(The following letter was written by Mrs. Parris to "Diane and Bert" on 11th January 1987. When she writes of "the cuttings from you" she is referring to a batch of cutting material of 16 cultivars that we sent to Mr. Ken Gillanders, a nurseryman of Kingston, Tasmania in June 1985, under a phytosanitary certificate. Members should not attempt to send cuttings or plants to friends in Australia otherwise, as that country's import regulations are both strict, and strictly enforced.)

Perhaps I should call this an "Interim Report", but things are gradually clarifying at this end. Gone, however, for the present, are my dreams of repeating the colourful heather garden I had at Spring Cottage, when it was even opened under the National Garden Scheme. I am also beginning to understand why so many Heather Society people out here seem to drop out.

Whether or not it is the soil or the climate I don't know, but I am positive it is largely due to soil fungi. Here things are complicated by my volcanic subsoil, which is very unlike the sedimentary clay at Spring Cottage. It is hard to wet, and when this is achieved,

dries out in no time. I have now put in an automatic watering system, but it has been largely unused this year.

However, now to a more cheerful note; although Mr. Gillanders did not send the rooted cuttings in small pots as he suggested himself, they were carefully planted out, and then treated with Benlate or Fongarid fungicide. They looked well for a time, and then the "rot" set in, but mostly only with the *Erica carnea*. So I've decided to give up any more of these.

Of the cuttings from you, *E. manipuliflora* is an outstanding success. The plants are vigorous, and coming into flower. I had never grown this at home, although I had heard of it and seen it.

Most of the E. x darleyensis has come through this wet season well. E. vagans and E. erigena appear to be relatively resistant to the soil fungi, whether they are Phytophthora cinnamomi or others.

Treatment of an *E. erigena* bush (not one of yours) which was characteristically dying off, had outstanding success with Benlate.

There are signs of recovery amongst the heaths I mistakenly overdesed with Ciba Geigy pre-emergent weed killer. Of these *Calluna* 'Robert Chapman' now appears most promising. However, I can't wait nowadays and have re-ordered the Callunas and Daboecias for inclusion in the new area.

I would think the E. lusitanica and E. baccans which

have naturalised too successfully out here are immune to the fungal attack. The local conservationists recently launched an attack on *E. baccans* in a National Park, but quite ignored my protest that it was no use doing this after all the capsules had been allowed to burst. An Englishwoman who says things like that is just that most objectionable of persons, a "Whinging Pommy".

I was recently honoured with a two hour visit from Mrs. Tilson, a Heather Society member from New Hampshire, U.S.A. I collected her at Warragul and returned her later, after she had travelled the 60 miles down from Melbourne by train, as part of a World tour.

I shall hope to send a more optimistic report later in the year.

## **Book Review**

Heaths and Heathers: A Wisley Handbook
F. P. Knight
64pp. 48 coloured illustrations
Cassell The Royal Horticultural Society, 1986 (New Edition)
£2.50

This is a completely revised version of the second edition of *Heaths and Heathers*, which was published in 1979 and reviewed in the 1980 *Year Book*. The text has been enlarged and brought up to date and the inclusion of 48 coloured photographs has greatly added to the value of this useful Handbook.

In this edition the text follows the same pattern as in the two previous editions, but includes additional infor-

mation. The list of recommended cultivars has been extended with the addition of the best of the more recent introductions.

Unfortunately there are a few serious mistakes which the Royal Horticultural Society should never have allowed to slip through. On p. 9 E. x veitchii 'Gold Tips' is shown as a cultivar of E. arborea and on p.8 42 E. erigena 'Superba' and 'W. T. Rackliff' are shown as cultivars of E. lusitanica. On p. 46 Calluna vulgaris 'White Lawn' appears as "White Lion (2ft. 60 cm.)". It should be described as 2 in. high. There are other less important mistakes, which should, nevertheless, have been corrected in a handbook, which is published with the authority of the Royal Horticultural Society.

The coloured photographs are mostly well produced and show authentic colours. The exceptions are those of *Calluna vulgaris* 'Tib' on p. 47 and *E. cinerea* 'Knaphill Pink' on p. 51, which surely must have been taken of a wrongly-named plant.

In spite of these blemishes, this is a most useful little handbook on the growing of heathers, both for the beginner and the more knowledgeable enthusiast. It is very sad that the author, who always had a great love for heathers, did not live long enough to see its publication.

The price is very reasonable for such a comprehensive handbook.

P.G.T.



## A Newly Discovered Book on Heathers

Thanks to the kindness of Dr Heino Heine of Paris, I have a copy of a book, which seems to have escaped notice hitherto. Indeed, it proves to be very scarce, no copy found in a Paris library, and the only one I know with it here is the Lindley.

Its title is Des genres Camellia, Rhododendrum, Azalea, Acacia, Epacris, Erica et des plantes de serre froide en général by M.Ch. Lemaire published in Paris by Audot, éditeur du Bon Jardinier, 1844. It runs to 175 small, pages, the heathers from 99 to 125.

Their opening sentence is "Parlez des bruyères, c'est parler de ce que le règne végétal nous offre de plus mignard, de plus délicat, de plus élégant". 157 names "of those most ordinarily cultivated in Europe" are listed with brief descriptions and synonyms. Naturally, the great part are South African, but included are E. umbellata, E. carnea, E. erigena (as mediterranea), E. vagans, E. multiflora, E. cinerea, E. terminalis (as stricta), E. tetralix, E. ciliaris, E. australis, E. arborea, E. scoparia, in that sequence, plus Calluna. In addition there are useful sections on the history of the genus and its characteristics, its cultivation and its propagation.

Prof. (Antoine) Charles Lemaire (1800-1871) was French, but spent much of his life in Belgium. He edited or co-edited various well-known publications such as *Revue Horticole*, *Flore des Serres* and *L'Illustration Horticole*. When the last was bought up in 1869, he returned to Paris, pensionless, and died in poverty soon after.

D. McC.

Hybridisation of the Hardy Ericas. Part 2. E. x williamsii, E. x watsonii, and new hybrids from E. manipuliflora.

## Dr John Griffiths, Garforth, Yorkshire

In the 1985 Year Book, preliminary observations on various attempted crosses between European species of Erica were presented, together with an account of existing interspecific hybrids and suggested techniques for hybridisation experiments. Now that some two years have elapsed since those observations were recorded, certain of the presumed hybrid seedlings have flowered and firm conclusions concerning the true hybrid character or otherwise of these can now be made. I would therefore like to present a brief account of those crosses that have proved successful, and to describe the appearance of the hybrids as noted during the summer of 1986.

## 1. E. x williamsii

E. x williamsii is our rarest native heath, and its presumed parentage (in alphabetical order according to standard practice in the absence of knowledge of the mother plant) is E. tetralix x E. vagans. In the preceding article in this series (Year Book, 1985, p. 36) an experiment was described in which flowers of E. tetralix 'Melbury White' were dusted with pollen from E. vagans 'Lyonesse' in the late summer of 1981. Good seed set was observed, and subsequently a large number of seedlings were produced which were grown on. Unfortunately these proved lacking in vigour and casualties were high. By the summer of 1986 only ten plants remained, and these were generally mid to light green,

dome-shaped plants, with compact foliage resembling that of known E. x williamsii hybrids. The plants were very slow growing, and the largest was about 17 cm in diameter and 7 cm high, this after four years of growth from germination. In my previous article I could not be too dogmatic about the hybrid status of my plants since none had flowered at that time. However, flowers were produced, albeit very sparsely, on two of the plants by July, 1986. The flowers showed on dissection typical E. x williamsii characteristics, i.e. the anthers had short appendages, in contrast to the long ones of E. tetralix and the totally absent ones of E. vagans. (Appendages have not been noted on the few wild plants of E. x williamsii). The ovary was totally devoid of hairs, unlike the markedly pubescent ovary of E. tetralix. It was surprising, and not a little disappointing, to find that the flowers of both plants were pink. It is not unknown for the offspring of two white-flowered parents to have coloured flowers, and it thus seems that this particular combination of white cultivars is unsuitable for producing white hybrids\*. A white E. x williamsii then still remains a worthwhile challenge to the hybridiser.

(Extract from RHS Scientific Committee minutes, 7th October, 1986.

<sup>&</sup>quot;Mr. McClintock mentioned that when white-flowered cultivars of E. tetralix and E. vagans had been crossed, the resulting plants were pink flowered. Mr. (Gavin) Brown (who was awarded a VMH in 1978 for his work on breeding fruit and flowering plants) said that similar results occurred with Streptocarpus. Professor Bell (Director of Kew) explained that this resulted from the combination of two biochemical pathways from the parents, an enzyme from one acting on raw materials from the other, sometimes producing new compounds. Mr. Brown described how, in Streptocarpus, white forms resulted from a "blockage" in the production of anthocyanin. Such blockages could be in different places in different plants, so that a hybrid might lack a blockage and so have coloured flowers". (Sadly Mr. Brown died in March.)

Since that first experiment of 1981, several other crosses between *E. tetralix* and *E. vagans* have been made, and although none of the resultant plants has yet flowered, on foliage considerations alone it is clear that the crosses were all successful. Notable are the crosses in which *E. vagans* 'Valerie Proudley' plays the role of the pollen parent, since a high proportion of the plants show the bright golden foliage characteristic of that cultivar.

Considering the results of the past six years, experiments with the E. x williamsii system, it can be concluded that the cross is a very efficient one, and natural hybrid barriers are very low. Why then should this be an extremely rare hybrid in the wild? I believe that the answer lies in the generally low vigour of the hybrids, and even under garden conditions with careful attention, losses are high. In nature such plants would not survive in competition with other species, and the few known naturally occurring forms of this hybrid are exceptional in their vigour and robustness.

## 2. E. x watsonii

This hybrid is more common than E. x williamsii, but again there is no direct evidence for the presumed

parentage, E. ciliaris x E. tetralix, in that no deliberately induced hybrids are recorded. As with E. x williamsii, no white forms of E. x watsonii are known, and these remain a valuable objective for hybridisation experiments. With these factors in mind, several attempted crosses between E. tetralix as seed parent and E. ciliaris as pollen parent were made from 1982 onwards. The hybridisation of these two species proved much more difficult than in the case of E. x williamsii, and in most cases very little seed was formed, and when this germinated it generally proved to be pure E. tetralix

The first successful experiment was carried out on August 8th, 1983, when pollen from a white flowered, glandular form of E. ciliaris (kindly provided by Maj.-Gen. P. G. Turpin) was applied to the flowers of tetralix 'Con Underwood'. Of eight flowers pollinated only two showed reasonable seed development, and a very small amount of seed was collected and sown on November 1 of that year. (It should be noted that in the same year, crosses with the same form of E. ciliaris and E. tetralix 'Melbury White', and between E. ciliaris 'Stoborough', 'Mrs C. H. Gill' and 'Corfe Castle' and E. tetralix 'Alba Mollis' were all unsuccessful, showing the difficulty of the cross). The seed eventually germinated by the end of April 1984, and two sturdy seedlings survived into the following year. It was clear from an early stage that these were not typical E. tetralix, and had more of the foliage character of E. ciliaris. By mid-summer 1986 the two plants were approximately 8 cm high with a spread of about 15 cm, but were very straggly because of the forced conditions under which they were grown. One of the plants produced a small terminal cluster of flower buds, which as they enlarged first appeared pink, and then by the time they opened fully were pure white. The pink colour could then be seen to have been caused by the bright pink

stamens, which could be seen through the translucent corolla. Fortunately the plant was in flower at the time of the 1986 Heather Society Conference in Leeds, and I was able to exhibit this to members. It was reported to the RHS Scientific Committee on 28 October 1986.

The flowers closely resemble those of other forms of E. x watsonii, as did the foliage. Dissection of the flowers showed typical hybrid character, e.g. the ovary was sparsely pubescent (but the anthers showed no detectable appendages). Normally E. x watsonii is stated to have short appendages to the anthers, but it appears that in this particular case the E. ciliaris pollen parent exerts a dominant role, and the appendages are missing. The flowers of the hybrid appeared to be sterile and self-pollination and pollination with E. ciliaris pollen gave no seeds. As a consequence the flowers remained white for a long period, and thus, provided the floriferousness is adequate, this should eventually make a valuable new addition to our range of garden heathers.

Before leaving this particular hybrid, mention should be made of attempts to carry out the same cross in the reverse direction, *i.e.* using *E. tetralix* as the pollen parent and *E. ciliaris* as the seed parent. So far only a limited number of experiments have been carried out, but these look very promising. None of the offspring has yet flowered, but a good number have intermediate foliage and show the typical hybrid characteristic of bright yellow new growth. Should these be confirmed as hybrids, then this suggests that the cross is much easier in this direction than in the former direction. One might also infer then that the naturally occurring *E. x watsonii* hybrids will also have been produced in this way, purely on probability grounds. It might also be that the missing

anther appendages in my hybrid are a characteristic of the cross with *E. tetralix* as the seed parent, whereas the more usual situation of anthers with small appendages may be characteristic of the reverse cross. This intriguing possibility can only be tested when more of the deliberate hybrids have flowered.

## 3. E. manipuliflora x E. vagans

Erica manipuliflora is a somewhat variable species, with a close affinity to E. vagans. There is no doubt, however, that in appearance eastern E. manipuliflora is very distinct from E. vagans. It is the form that I grow, upright in growth with white-grey stiff stems, very short dark green leaves, and interrupted inflorescences. Furthermore, the flowers are markedly scented, unlike E. vagans. My own plant originated from David Small, and he in turn obtained it from a member's garden several years ago, but unfortunately its history previously to that is unknown. Its most endearing characteristic is its extreme hardiness.

In the 1985 Year Book I described some hybridisation experiments in which this plant played the role of seed parent, and various forms of E. vagans that of pollen parent. The earliest such experiment was carried out in August 1982, using E. vagans 'Mrs. D. F. Maxwell'. The many offspring that resulted were generally extremely vigorous, and flowered for the first time in late summer 1985. Curiously however, a small proportion (about 10%) were diminutive, very slow growing plants. By 1986 only two of the latter remained, and these were

approximately 8cm in diamter by 5cm high, whereas the other plants were by then some 25 cm by 25 cm in size. The larger plants had flowered sparsely in 1985, and profusely in 1986. All the evidence pointed to these being true hybrids. Thus the spacing and interrupted character of the inflorescences were intermediate between the two species, as was the growth character of the plants (semi-fastigiate). The flowers retained the scent of the *E. manipuliflora* parent. An additional piece of evidence was the fact that the *E. manipuliflora* was almost entirely self-sterile, as shown by deliberate self-pollination trials, and yet pollination with *E. vagans* pollen gave a high degree of seed set.

After the Leeds Conference, Bert Jones kindly offered to subject pollen from my hybrids and the parent species to staining tests and microscopic examination. His results are summarised in a separate article in this journal, and he concluded that whereas the pollen of the E. vagans and E. manipuliflora parents was normal and viable, that from my hybrids was non-viable. This is typical of many interspecific hybrids, and argues for the hybrid character of my plants and the separate specific status of E. vagans and E. manipuliflora. The pollen sterility of these hybrids, and the self-sterility of the E. manipuliflora parent, despite its pollen fertility, were reported to the RHS Scientific Committee by David McClintock on 7 October 1986.

The flowers on my plants ranged from pale shell pink to pink in colour, and remained in colour on the plants for a very long period. Thus although none could be regarded as a great beauty, their vigour, floriferousness, long flowering period, and scent might make them worthy of a place in the heather garden.

A similar hybridisation study was initiated in 1983,

using E. vagans 'Lyonesse' as pollen parent; and the plants were similar in all respects to those from 'Mrs. D. F. Maxwell', except that the flowers were generally paler in colour, ranging to near, but never pure, white. Equally interesting were offspring from the cross involving E. vagans 'Valerie Proudley' as pollen parent. About half were very vigorous plants, resembling closely the other hybrids described, whereas the other half were slower growing, and had the foliage colour of 'Valerie Proudley'. None of the latter has yet flowered, but they show promise as foliage plants even if their flowers are of no consequence.

## 4. E. manipuliflora x E. tetralix

The success of the E. tetralix x E. vagans crosses, and the clear affinity between E. manipuliflora and E. vagans prompted experiments involving E. tetralix as seed parent and E. manipuliflora as pollen parent. In early September 1983, seven flowers on E. tetralix 'Bartinney' were treated with pollen from E. manipuliflora, and four of the flowers eventually produced seed. The seed was collected and sown in the following November, and this had germinated by June of the following year, giving 15 seedlings. These were grown on successfully, and currently range from 8 cm to 15 cm in height, with foliage varying from dark green to light green with gold tips. The leaves resemble E. x williamsii very closely, but the plants are more erect and stiffer than E. x williamsii seedlings of the same age. The plants have yet to flower and these flowers are awaited with interest. It does seem, however, that the lower vigour found with almost all the E. x williamsii crosses does not apply to this particular cross.

The hybrids described in this article represent only a fraction of the many crosses that have been attempted, but they are the only ones from which true hybrid character can be assumed beyond reasonable doubt. As other plants come into flower no doubt many will be discarded as non-hybrids, but a few will remain as confirmed interspecific crosses. These will then be reported in future *Year Books* when appropriate.



George Dickson (1832-1914) VMH, head of Alexander Dicksons, the rose growers of N. Ireland, son of its founder, "endeavoured to cross summer and winterflowering heathers by keeping the pollen of the one until the other was in bloom. He sealed it in goose quills".

from Heavenly Roses by Jack Harkness, 1985, p. 47.

# Notes on Erica manipuliflora, E. vagans and their hybrids

A. W. Jones, West Camel, Somerset.

In the herbarium at the British Museum there is a specimen with a label that reads "Herb. Pallas. Sibthorp, Erica purpurascens". It was collected "circa Byzantium" — i.e. in the neighbourhood of Istambul. It is undated, but John Sibthorp lived from 1758 to 1796. E. pupurascens was a synonym of E. vagans used, most erroneously, by Lamarck in his Encyclopedia. Another hand has pencilled in "E. vagans" on the herbarium sheet. Finally, R. Ross appended his determinative label, correctly identifying the specimen as E. manipuliflora.

There appear to be close affinities between E. manupuliflora and E. vagans. In 1838 Bentham (1) grouped the two plants together. In 1852 Grenier et Godron (2) wrote that "E. vagans had been wrongly confused or reunited with E.manipuliflora". As recently as 1972 Webb and Rix (3) wrote that "although on purely morphological criteria E. manipuliflora might be reduced to a subspecies of E. vagans, its different habitat, wide geographical separation and usually rather distinct habit probably justify its retention as an independent species". A more diligent search of the literature would produce many examples, mainly from the last century, of these species being treated separately by some, and together by others.

Some examples of *E. manipuliflora* appear markedly different in habit from *E. vagans*, while others are remarkably similar. The flowers of the two plants are virtually indistinguishable. In 1980 I sent David

McClintock a pressed specimen of the plant that is now called *E. manipuliflora* 'Ian Cooper'. He wrote back (4) "Nor do you say whence your Cornish Heath came, for that it must be, ......"

What then are the characters that distinguish E. manipuliflora from E. vagans? Webb and Rix (3) give the lengths of the leaves and anthers, though the ranges they quote overlap for the two plants. They also say that the leaves of E. manipuliflora are mostly erect or erecto-patent, while those of E. vagans are patent or somewhat deflexed on older shoots. This last character seems reliable, as also does that given by Salisbury (5)\*. He described E. manipuliflora as "with flowers in interrupted axils". To these I would add two further, tentative characters. E. manipuliflora is scented, while E. vagans is not. The ovaries of E. manipuliflora are roughly cylindrical and about a third as long again as their diameter; those of E. vagans are approximately the same in length as diameter, and constricted towards their tops, giving them a pear-shaped appearance. These last two characters need checking on many more examples of E. manipuliflora before they can be considered completely reliable.

Until recently no hybrid between *E. manipuliflora* and *E. vagans* was known. In the preceding article Dr. Griffiths describes how, in 1982, he fertilised an *E. manipuliflora* with pollen from *E. vagans*, and obtained viable seed. The *E. manipuliflora* that he used had failed to produce seed in previous self-pollination experiments, despite having a pollen fertility of 42.8%.

<sup>(\*</sup>Salisbury also had a specimen of E. manipuliflora "collected by him next to Bujuchtar and most kindly sent by Sibthorp". (Bujuchtar - Buyukdere?).)

In September 1986 he kindly gave me one of the resulting plants, and flowering stems from two of the others. I obtained pollen samples from all three plants. Under the microscope the vast majority of the pollen tetrads were shrivelled. Tests with Alexander's stain showed that the overal pollen fertilities were 9.7, 4.5 and 4.2%, compared with values of from 42.8 to 88.6% for five known examples of *E. manipuliflora*. Even with so small a sample, these differences are statistically significant.

The sterility of most interspecific hybrids has long been recognised. Darwin(6)wrote at length about it. The summary of his chapter on hybridism begins "First crosses between forms, sufficiently distinct to be ranked as species, and their hybrids, are very generally, but not universally, sterile. The sterility is of all degrees, and is often so slight that the most careful experimentalists have arrived at diametrically opposite conclusions in ranking forms by this test". That opinions have not changed may be seen by noting that David McClintock (7) has written "Most species will not cross with another, and if they do, their progeny will commonly be sterile".

An example of a genus where sterility is slight is provided by *Salix* (the Willows). Here many hybrids are known, and some have three or more species in their parentage.

The European Ericas are at the other, more populated, end of the gradation of hybrid fertility. Their pollen fertility is a remarkably stable character. My own observations have shown that, for several cultivars, it does not vary significantly from plant to plant, in plants from widely separated growing sites, from year to year,

or with the time within the blooming period. For both wild plants & cultivars, I have not noted variations, outside those that may be expected from the experimental technique, from raceme to raceme, from flower to flower in a single raceme, or even from anther to anther within a single flower. Nor does it vary from anthers in unopened buds to those in faded flowers, though in this last case it may be difficult to obtain samples. In several hundreds of examinations of species I have on only four occasions found values as low as those from Dr. Griffiths' plants. Three of those four observations were on E. mackaiana, including the cultivar 'Dr. Ronald Gray'. With this species the situation may be complicated by the sterility that is sometimes associated with relict populations.

Pollen fertility tests of many examples of all the previously known hardy *Erica* hybrids have shown that they are all almost totally male sterile. Here it seems apposite to quote again from Darwin (6). "Pure species have of course their organs of reproduction in a perfect condition, yet when intercrossed they produce either few or no offspring. Hybrids, on the other hand, have their reproductive organs functionally impotent, as may be clearly seen in the state of the male element in both plants and animals; though the formative organs themselves are perfect in structure, as far as the microscope reveals". I have sectioned the ovaries of fewer hybrids than those for which I have tested the pollen, but in all cases the ovules have appeared smaller than those of species.

The pollen tests on Dr. Griffiths' plants confirm that they are very probably true interspecific hybrids, and therefore, on these grounds, that *E. manipuliflora* and *E. vagans* are two distinct species.

Although no hybrid between these species was known until Dr. Griffiths produced his plants, it is possible that one or more may have existed. The clone that is probably most frequently supplied as *E. manipuliflora* at present in this country was introduced into trade by Maxwell & Beale in 1951 as *E. verticillata* (Forskål, non Bergius). They had been sent three plants from the Royal Botanic Gardens, Kew on 16th March 1949 (8), but Kew do not now know from whence it came to them. I am told that one of the original plants is still growing on Naked Cross Nurseries.

For several reasons, I have for some time considered that this clone may be a hybrid. In September 1979 I tried to fertilise it with pollen from *E. vagans*, and applied its pollen to the stigmas of *E. vagans*. Again early in October 1980 I tried to pollinate its emasculated flowers with *E. vagans*, but all three of these experiments failed to produce any seed. In July 1982 I examined the pollen under the microscope, and found that most tetrads were depauperate. In six tests with Alexander's stain the overall pollen fertilities ranged from 0 to 3.5%, with a mean value of 1.1%. (In September 1986 I obtained a value of 2.5%).

If this was a hybrid I could not suggest the other parent, since I could not find characters in it that were not present in E. manipuliflora. Now, by analogy with Dr. Griffiths' hybrids, I believe that it could be E. vagans. There is one further piece of possible evidence that may support this opinion. The ovary of the Maxwell & Beale clone is more like that of E. vagans than E. manipuliflora. The plant may have arisen as a result of a fortuitous cross pollination somewhere where the parent species were being grown sufficiently close together. It was possibly selected for cultivation, as it is certainly far

more garden-worthy than many examples of E. manipuliflora.

Rinus Zwijnenburg tells me (9) that in 1964 he received seed said to be from E. manipuliflora from a botanic garden, but he is now unable to remember which. He grew the resulting seedlings on for several years, but was doubtful if it was a true E. manipuliflora. In 1974 he asked Harry van de Laar for his opinion on the plant. He thought it was E. vagans. Therefore the plant was introduced later that year as E. vagans 'Elegant Spike'. It is not fully hardy in Holland, David McClintock wrote of this plant in the letter cited earlier (4) "But I do a bit wonder if it may not be a hybrid, for its anthers are v(erv) much on the long side". Yates (10) described this as "only a typical form of E. vagans". In November 1986 David Small sent me some stems of this plant which still bore some newly opened flowers. The leaves were erect in whorls of three, and the racemes were somewhat lax and interrupted, confirming the presence of E. manipuliflora in its lineage. Examination of the pollen showed it to be depauperate and only 2.2% fertile. E. 'Elegant Spike' may thus be another example of a fortuitous hybrid between E. vagans and E. manipuliflora.

In a genus where low pollen fertility is normal in interspecific hybrids, and very rare in the species themselves, there would indeed seem to be a low probability that two examples of a single species, both showing this character, should be selected for garden cultivation. Furthermore, neither of these plants came directly from a wild population.

## Acknowledgements

I would like to thank those who have made these notes possible by supplying me with plant material, or answering my questions. They are all identified in the text, or in the references which follow. The opinions expressed, some of which may be controversial, are solely my own, and it is I who must take responsibility for them.

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## **New Acquisitions**

## J. Platt, Ulnes Walton, Lancashire

(During 1986, Jack Platt's continuing search for heathers that are new to him produced 19 cultivars. David McClintock and General Turpin have kindly provided extra information on many of these to make the descriptions more complete. Unfortunately, it is often not possible to give ultimate sizes for new cultivars.

Ed.)

## Calluna vulgaris

## 'Alec Martin' Aug. - Nov.

This plant was found by Mrs. M.K. Wilson of Rotherham, and named after a friend. It is said to have been a seedling. It carried its white double flowers longer than 'Kinlochruel'. The foliage is dark green, and it has a dome-shaped habit. It was available from Toxward Nurseries by 1985.

#### 'Alys Sutcliffe' 10cm tall Aug. - Sept.

A neat prostrate plant that develops into a low mound with dark green foliage and bright mauve flowers. It arose as a seedling, and was selected and named, by 1965, after Miss Sutcliffe (1894-1969), an English horticulturalist working at Brooklyn Botanic Garden, U.S.A. (Year Book of the Heather Society, 1972, p. 35).

## 'Anton' 20 cm tall Aug. - Sept.

The lilac pink flowers of this cultivar are carried on short spikes. The habit is compact, and it looks like a green-foliaged 'Andrew Proudley'. It was found in 1979 as a seedling by Hoekert in a peat garden at Oldebrock in Holland. He named it after his nursery foreman, Anton Jansman (Ericultura, 1983, 51/2, 12; Year Book of the Heather Society, 1984, P.70).

## 'Citronella' Aug. - Sept.

A white-flowered Calluna which is rather similar to 'Gold Haze', but with somewhat more lemon-coloured foliage. Unfortunately it sometimes suffers from browning of the lower foliage. It was found as a seedling on C. J. Piper's Pennyacres Nursery in Fife before 1979. (The Gardener's Book of Heathers, 1985, p. 142).

## 'Findling'

A small compact plant that has yet to flower. It was found by K. Kramer in a nature reserve during the 1970s. (Ericultura, 1979, 35, 10; 1981, 44, 26, illustrated in Gartenpraxis, 9/82, 9 and Der Heidegarten 3:18.

## Inchcolm' Aug. - Sept.

This cultivar has H8 (pink) flowers. The foliage is yellow-green, with salmon tints in the spring. The habit is dainty and erect. It was found as a seedling by Mr. Proudfoot of 9 Inchcolm Terrace, South Queensferry, West Lothian before 1985. (Year Book of the

Heather Society, 1986, p. 41).

#### 'Isle of Flotta'

A vigorous, cushion-shaped mound of mid-green foliage that has so far carried one mauve flower. It has been known since 1985.

## 'Pink Delight' Aug. - Sept.

This was found as a seedling by Mr. Alan Newsham on Twin Acre Nurseries, Allostock, Knutsford, Cheshire in 1983. It takes its name from the pink tips of the new growth, which last well into the summer. The flowers are H2 (mauve), and the mature foliage midgreen. The habit is bushy.

#### 'Ronas Hill'

A good prostrate plant with yellow foliage in spring and summer, turning orange-bronze in winter. It has not yet flowered. Mr. John Copland found it in Shetland, and it was introduced by Jack Drake of Aviemore, Inverness-shire in 1985. (Year Book of the Heather Society, 1986, p. 41).

#### 'Sam Hewitt' Aug. - Sept.

The H13 (crimson) flowers of this cultivar blend well with the gold foliage. It is rather similar to 'Firefly', but more compact. It was found about 1982, and introduced by Mr. & Mrs. J. Hewitt of Frensham, Surrey. It is named after their son. (See p. 62 of this *Year Book*).

## 'Stranger' 40 cm. Aug. - Sept.

A compact plant with H2 (mauve) flowers and grey-green foliage which takes on silver tints in spring. S. Ketelaar found it as a seedling in 1976. It was named in 1983, and introduced by P. G. Zwijnenburg of Boskoop. (Ericultura, 1983, 51/2; 13, Year Book of the Heather Society, 1987, p. 22)

## 'Sirsson' 30 cm. Aug. - Sept.

Arose as a seedling, reputedly from 'Sir John Charrington', in Mr. D. A. Richards' garden in Eskdale in about 1978. The habit is similar to 'Gold Feather'. The foliage is gold, turning orange-red in winter. At Ulnes Walton the foliage is outstanding and lights up the heather garden. However, Mr. Richards has now discarded the plant as not worth growing. This may be an example of a plant that does well under some conditions, and poorly under others. Alter-

natively, this may be a plant that ages rapidly. (The Gardener's Book of Heathers, 1985, p. 147).

## 'White Gold' Aug. - Sept.

A white-flowered sport on 'Orange Queen', found by John Kampa c. 1974. The foliage is gold, and the habit broad. The flowers sometimes show a tendency to revert to the normal colour of 'Orange Queen'. (Year Book of the Heather Society, 1984, p. 62).

## 'Whiteness' 30 cm. Aug. - Sept.

Found as a white-flowered sport on 'Darkness' by Hoekert in 1980. It has light green foliage, an erect habit and is floriferous. (Year Book of the Heather Society, 1985, p. 72; Ericultura, 1983, 51/2; 13 - 14).

#### Erica carnea

## 'Corran Ferry' Feb. - March

The corollas are H16 (shell pink) with H11 (lilac pink) calyx. It has green-gold foliage during the winter, which turns gold in the spring. The habit is open. It was introduced by Delany and Lyle of Alloa by 1982. (Year Book of the Heather Society, 1984, p. 72, erroneously as Calluna vulgaris).

## 'Hilletje' 10 - 20 cm. Dec. - Feb.

A sport on "Praecox Rubra', found by M. Verwey of Boskoop in 1976, and introduced in 1980. It is named after his wife. The flowers are dark H11 (lilac pink). The foliage is green-gold in summer, with orange-red tints in winter. (Ericultura, 1980, 26; Year Book of the Heather Society, 1981, p. 74).

## Erica x darleyensis

## 'Mary Helen' 20 cm. Feb. - April

Found as a seedling on Holden Clough Nursery and introduced by 1984. The flowers are H7 (rose pink), and the foliage is yellow-green in summer, turning bronze in winter. The habit is compact yet erect. It was named after the Foleys' daughter. (Year Book of the Heather Society, 1986, p. 40).

## 'Pink Perfection' Dec. - April

A plant with H7 (rose pink) flowers and dark green foliage. It is said to have been found as a sport on 'White Perfection', but its origin has not yet been traced.

Erica vagans

'Golden Triumph' Aug. - Oct.

A sport on 'Lyonesse' which retains the white flowers, but has golden tips on the foliage in spring. It was found by Mr. Alan Newsham at Twin Acre Nurseries in 1982. (Year Book of the Heather Society, 1986, p. 45).

## Cultivars Registered During 1986 The Registrar

- 43. Calluna vulgaris 'Gerda'. A prostrate seedling with gold/pink foliage, first noticed in his garden at Orpington in 1984 by R. G. Chatelain, named after his wife, and registered by him.
- 44. Erica tetralix 'Swedish Yellow'. A sport found on the Torre Mosse near Vannersborg in Sweden in 1983 by Mrs. B. Johansson and registered by her. It has rich yellow foliage, the tips somewhat reddish in winter.
- 45. Erica manipuliflora 'Ian Cooper'. Found in the wild at Korcula in Yugoslavia in 1978 by Mr. A. G. Small and registered by his son David. It has tapering racemes of H16 (shell pink) flowers and seems hardy.
- 46. Erica carnea 'Pink Cloud'. A 1982 seedling in Forest Edge Nurseries, Verwood, Dorset with fresh green foliage and pink flowers which darken with age to H12 (heliotrope). Registered by the owner and finder, David Edge.

# Personal and Geographical Names for Hardy Heathers — 6th Supplement David McClintock, Platt, Kent.

The fifth supplement appeared in the last, 1986, Year Book.

## **Personal Names**

- 'Barry Sellers' (carnea). B. M. Sellers of Chandlers Ford, finder of seedling in late 1970s.
- 'Brigitte' (cinerea). Wife of Comte Bernard de la Rochefoucauld of Ingrannes, France; seedling pre-1984.
- 'Brita Elisabeth' (Calluna). Mrs. B. Johansson (b. 1932) of Vargön, Sweden, finder of wild seedling 1980/1.

- 'Ian Cooper' (manipuliflora). Friend (d. 1985) of A. G. Small, finder of wild seedling on Korcula in 1978, father of David Small.
- 'David's Rescue' (Calluna). Seedling at R. J. Brien's of Pitcairngreen, Perth in 1980's, rescued from a batch of c. 2,000 by his son David.
- 'Findling Wellner' (Calluna). (Seedling c. 1980, with J. Kamps at Hamburg 1986).
- 'Fokko' (Calluna). Youngest son of J. Krebs of Hoyerhagen, S. of Bremen; sport on 'County Wicklow' 1983.
- 'Forsteri' (cinerea). (At Hardwicks by 1986).
- 'Gerda' (Calluna). Mrs. R. G. Chatelain of Orpington; seedling 1984.
- 'Sam Hewitt' (Calluna). Son of Mr. & Mrs. J. Hewitt of Frensham; seedling c. 1982.
- 'Hugh Johnson' (x darleyensis). Almost certainly an error for 'Arthur Johnson'.
- 'Jochen' (Calluna). Jochen Stelling, Krebs' first apprentice; seedling c. 1970.
- 'Karina' (Calluna). (erroneously also Carina and Kalinka). Wife of Herr Ranken of Wiesmoor, finder of sport on 'J. H. Hamilton' 1981.
- 'Kersten' (Calluna). Only child of Mr. & Mrs. Johansson of Vargön, Sweden; seedling c. 1984.
- 'Stephen Leitch' (cinerea). Doncaster surgeon, and member, named for his 60th birthday; sport on 'C. D. Eason' at Oliver & Hunter's in 1980s.
- 'Myrtel' (Calluna). Wife of Mats Johansson of Boras, Sweden, finder of wild seedling c. 1984.
- 'Polly' (Calluna). Youngest granddaughter of R. J. Brien of Pitcairngreen; seedling by 1985.
- 'Walther Reisert' (carnea). (ex Nagel Nursery, Bretten, at Bad Zwischenahn 1986).
- 'Saskia' (Calluna). Rembrandt's wife. The plant made the finder, Mrs. B. Johansson, think of his paintings; wild seedling c. 1984.
- 'Scholje's Rubin (Calluna). D. Scholjegerdas of Bad Zwischenahn; sport on 'Peter Sparkes' 1980.
- 'Schurig's Goldstern' (Calluna). K-H Schurig, sport on 'Schurig's Sensation' in his nursery at Barmstedt pre-1985.
- 'Sesse' (Calluna). The childish name Kersten Johansson (see above) gave herself; wild seedling 1985.
- 'Wilma' (Calluna). Employee of Bob Brien of Pitcairngreen; seedling in 1980s.

## Geographical Names

- 'Typ Anderton' (Andromeda). Small village near Hoyerhagen, Kreis Nienburg, wild seedling 1981.
- 'Boras' (Calluna). Swedish town E. of Gothenburg, near where the wild seedling was found c. 1984.
- 'Bosnas' (Calluna). Swedish town NE. of Gothenburg where the finder Mats Johansson lives, wild seedling 1981/2.
- 'Gold Braemar' (Calluna). Town in Aberdeenshire; sport on 'Braemar' at Pitcairngreen in 1980s.
- 'Holstein' (Calluna). Province of N. Germany in which is Hatje's nursery, where seedling arose c. 1980.
- 'Hoyerhagen' (Calluna). Village S. of Bremen where J. Krebs has his nursery, finder of sport on 'Sellingsloh' c. 1984.
- 'Isle of Flotta' (Calluna). Small island near Hoy in the Orkney archipelago, by 1985.
- 'Per Spelleman' (Calluna). Peter the Fiddler, a hero of a Norwegian folk song about a farmer who sold his only cow for a fiddle. He gave his name to a street, near Stavanger, where is the garden where this reversion on 'Ruth Sparkes' occurred in 1984. It is of course 'Alba Plena'.
- riojana (arborea) Viloria de Rioja, Burgos, Spain, whence this variety was named in 1929.
- 'Rostrevor Pride' (Calluna). Town in Co. Down, whence the plant is presumed to come, by 1982.
- 'Scaynes Hill' (Calluna). Village in Sussex, where the seedling was found in a garden pre-1982.
- 'Sellingsloh' (Calluna). Wood behind J. Kreb's nursery; sport on 'Darkness' 1982.
- 'Sneznik' (carnea). Mountain in Istria, Yugoslavia, where seedling found by Dr. H. Simon pre-1980.
- 'Swedish Yellow' (tetralix). Wild sport found on Torre Mosse in Sweden by Mrs. B. Johansson, 1983.
- 'Westerlee Gold' (Calluna). Westerlee in Groningen province, N. Holland, where A. Bosch has his nursery. Pre-1986.
- 'Westerlee Green' (Calluna). As above.
- 'Wiesmoor Red' (Calluna). Seedling found by Enno Hinrichs of Wiesmoor, N. Germany 1981.

## **Ameliorations**

- 'Cooperi' (scoparia). Noted earlier by Dickson's of Chester 1883.
- 'Corran Ferry' (carnea), and not a Calluna.
- 'Incholm' (Calluna). Presumably Terrace in South Queensferry and not, directly, the island.

'Polden Pride' (carnea), and not "Polden Pink" (cinerea).

'Saima' (Calluna). Mrs. Saima Olafsson, b. 1936. Misprinted as "Sim".

'Tybesta Gold' (carnea). Roman name for Grampound, Cornwall, where Anderson's nursery is, where seedling appeared 1975. Not as stated in 1981 "Parish in Cornwall".

## Personal Names for South African Ericas, Part 1.

David McClintock, Platt, Kent.

The earlier lists of such personal names have been restricted to the hardier, European heathers. The Society however, when it was appointed Registrar, was not allowed to hive off the tender species and hybrids. hence the list which follows. It is the first of three parts. to be followed by a fourth with place names. As always, comments and additions are welcome, but so far none has ever come! I am however greatly indebted to Ted Oliver at Stellenbosch, who has made three sets of helpful comments on these drafts.

Ludwig Abel of Port Elizabeth, mountaineer, finder, abelii. still alive.

acockii. J. P. H. Acocks, formerly Acock, 1911 -1979, ecologist, collector.

aitoni, aitonia, aitoniana. William T. Aiton, 1766-1849, of Kew.

albertus. Pre 1867 (Glendinning).

alexandri. Dr. R. C. Alexander 1809 - 1903. (cf priorii).

alfredii. Alfred Bolus 1871 - 1952, nephew of Harry Bolus.

andreaei. Dr. Hans Andreae, d. 1963, chemist, naturalist, finder. andrewsia, andrewsiana, andrewsii. Henry C. Andrews, d. 1830, artist and author of heather books.

archeria. Sarah, widow of 2nd Lord Archer, d. before 1802. 'Asendorf' (gracilis). Günter Asendorf, Baden pre-1984. atherstonei. Dr. William G. Atherstone 1814 - 1898, member of

Cape Parliament, Collector,

'Auerback's Weisse' (gracilis). M. Auerbach, by 1935.

austinian, (irbyana retorta). J. Austin 1776 - 1849, of Austin McAslan of Glasgow.

bachmannii. Dr. Franz E. Bachmann 1856-1916, naturalist, finder.

bakeri. Col. H. A. Baker RE 1896 - 1976, co-author of Ericas in Southern Africa, finder.

bandonia (irbyana). Catherine, Countess of Bandon, d. 1815.

banksia. Sir Joseph Banks PRS 1743 - 1820.

barnesii. by 1867 (Glendinning).

bartlingiana. Prof. Frederich G. Bartling of Göttingen 1798 - 1875, finder.

batemania. pre-1841 (Rollison).

bauera. Francis Bauer 1758 - 1840, artist.

baurii. Rev. I. R. Baur 1825 - 1889, finder.

beatricis. Mrs. Beatrice Ensor of Uniondale, Cape Province.

beaumontiana. Mrs. Beaumont of Bretton Hall, Yorks (? or Lady Diana, d. 1831).

bedfordiana. John Russell, Duke of Bedford 1766-1839, of Hortus Ericaeus Woburnensis. (cf russelliana).

bequartii. J. C. C. Bequart, d. 1886, finder.

berghiana. Dr. van den Berg 1957.

bergiana. Prof. Peter J. Bergius, of Stockholm 1730 - 1790.

blandfordiana. George, Marquis of Blandford, later 5th Duke of Marlborough d. 1840.

blancheana. Mrs. Blanche Humphrey Smith of Cape Province, 1930.

bodkinii. Prof. A. A. Bodkin 1847 - 1930, mathematician, collector.

bolusiae. Dr. H. M. L. Bolus 1877 - 1970, niece and daughter-in-law of Harry Bolus, botanist.

bondiae. Miss P. Bond (Mrs. Fairall) b. 1917, botanist, finder.

bonplandia. Aimé J. A. Bonpland 1773-1858, French botanist. boucheana. (nivenii x pellucida). Peter G. Bouché, yr of Berlin 1782

- 1856, heather grower.

bowerii. by 1825 (Donovan).

bousteadiana pre-1875 (Rollison).

bowieana. James Bowie c. 1789 - 1869, collector.

'Bremen' (x wilmorei), pre-1900 (Gentilhomme).

broadleyana. by 1809 (Andrews).

brownii (ventricosa). by 1875 (Rollison).

brownleeana. Miss Brownlee, missionary's daughter, by 1887.

burchellii. William J. Burchell 1781 - 1863, collector.

burnettii (hartnellii x hyemalis). Mr. Burnett, gardener to Mr. Buckland of Peterborough, c. 1853.

caffra/caffrorum. Of the kaffirs, used for S. Africa.

cameronii. Ken. J. Cameron, mountaineer, finder 1913.

candolleana. Augustin P. de Candolle, Swiss botanist

'Casimir Perrier' (cylindrica x willmorei). pre-1900 (Gentilhomme).

'President Carnot' (cylindrica x willmorei). Sadi Carnot 1837 - 1894.

cavendishii (depressa x patersoniana). William Spencer Cavendish,
Duke of Devonshire 1790 - 1858.

celsiana. M. Cels of Paris? 1771-1831.

chamissonis. Louis C. A. von Chamisso 1781 - 1838, botanist, collector, of Berlin-Dahlem.

cliffordiana. Eleanor, widow of 6th Baron de Clifford, d. 1845.

clintonaia. ?Rev. John Clinton 1771 - 1846.

clowesiana. 1825.

comptoniana (curvifolia). 1812. ? Marquis of Northampton.

comptoni. Prof. R. H. Compton 1886 . 1979, Director of Kirstenbosch.

cooperi. Thomas Cooper 1815 - 1913, collector.

coventryana. Peggy, Lady Coventry, wife of George William 7th Earl, d. 1840.

cushiana. by 1840.

cushonia. by 1828.

deckeri. Geheimer Hofbuchdrucker Decker of Berlin, fl 1892. denisoniana. by 1872.

dickensoniana. Mr. Dickenson, by 1812 (Hort. Cantab.). dickinsoni. c. 1810.

'Professor Diels' (colorans x perspicua). Prof. F. L. E. Diels 1874 - 1944 of Dahlem.

dodii. Lt.-Col. A. H. Wolley-Dod, 1861 - 1948, finder.

donniana. ?James Donn 1758 - 1813, of Cambridge.

douglasiae. 1851.

douglasii (aitonii x perspicua). Archibald, 1st Lord Douglas of Bothwell 1748 - 1827, or 2nd 1773 - 1844.

dregeana. Johann F. Drege 1794 - 1881, apothecary.

dunbariana. between 1790 and 1841 (Rollison)

'Lady Dunglass' (marnockiana x turnbullii). d. 1919 cf Countess of Home.

'Lord Dunglass' (marnockiana x ?). 17th Earl of Home 1834-1918.

duthieae. Dr. A. Vera Duthie 1881 - 1963 of Stellanbosch, lecturer in botany.

dykei. E. S. C. Dyke, d. 1915. Railway official and mountaineer.

edelina. M. Edeline, head gardener at Navarre, 1813.

'Roi Edouard'. 1841 - 1910.

ekloniana. Christian F. Ecklon 1795 - 1868, collector.

'Geheimrat Engler' (colorans x perspicua). Dr. Adolf Engler 1844 - 1930.

eppsii (trichoma). by 1875.

esterhuyseniae. Miss Elsie E. Esterhuytsen b. 1912, botanist at Bolus herbarium, collector.

ethelae. Miss Ethel West, 1918, collector.

eugenea. (Dulfer 1964)

eugenia. pre - 1900, sport.

eustacei. C. Eustace Pillans, 1850 - 1919, father of N. S. Pillans (cf. pillansii).

eweriana. Walther Ewer 1793.

eylesii. F. Eyles of Umtali, collector 1924.

faireana. 1880.

fairii. C. B. Fair, finder in 1894, friend of Harry Bolus.

fairreana. by 1882 (Rollison).

'Fannie' (regia). by 1976.

'Felix Faure' (wilmorei). M. Felix Faure 1841 - 1899.

fergusonii. by 1882 (Gentilhomme & Carriere).

flanaganii. Henry G. Flanagan 1861-1919, farmer, collector.

forbesiana. John Forbes 1798 - 1823, collector.

forsteri. J. R. Forster 1729 - 1798, or his son, J. G. Forster 1754 - 1794.

fourcadei. Dr. Henri G. Fourcade 1865—1948, forester and collector.

galpinii. Edward E. Galpin 1858 - 1941, banker, collector.

'Geiger' (gracilis). Konrad Geiger, Tägerveiler, Switzerland, c. 1950.

gillii. Dr. W. Gill 1792 - 1863, medical practitioner, collector.

'Glaser's Rôte' (and 'Weinrôte') (gracilis). K. Glaser, 1925.

goatcheriana. A. N. Goatcher of Ceres, Cape Province, 1921. gordinia. Col. R. J. Gordon, 1741 - 1797, explorer.

greyii. Sir George Grey 1812 - 1898, Governor of Cape Colony.

grishrookii. Charles Grishrook 1843—1902, finder.

guthriei. Prof. Francis Guthrie 1831 - 1899, mathematician and coauthor of Flora Capensis.

gysbertii. Gysbert Grisbrook, relation of Prof. Guthrie, finder, 1905.

hameriana. A. Handel Hamer, b. 1865, mountaineer.

haroldiana. Prof. Harold H. W. Pearson 1870 - 1916, of Kirstenbosch.

harroyana. Prof. J. P. Harroy, b. 1909.

hartnellii (crinita). 1820.

harvieana. Prof. William H. Harvey 1811 - 1866, co-author of Flora Capensis.

'Helène' (cylindrica x wilmorei). 1879.

hendersonii. Henderson's Nursery, Pineapple Place, 1844.

hendricksei. J. J. Hendrickse of Caledon, on whose farm it grew, 1967.

hesseana. C. F. Hesse 1772 - 1832, Lutheran minister, collector.

hibbertiana. George Hibbert, 1757 - 1837, of Clapham.

'Hintze's Frühe' (gracilis). by 1977.

holfordii (tricolor). by 1875.

'Countess of Home' (turnbullii x marnockiana). ?Marian wife of 17th Earl, d. 1919. cf. Lady Dunglass.

humeana. Amelia wife of Sir Abraham Hume of Wormley, 1751 - 1809.

humeriana. Bolus 1914. ?error for hameriana.

'Imperatrice de Russie' (cylindracea). (Gentilhomme)

ingramii (?hyemalis x linneana).

'Ingrid' (gracilis) 1978.

ionii. Dr. Ion Williams, engineer and botanist. b. 1912.

'Iphigenia'. (Vilmorin 1875).

irbyana. Hon. William Henry Irby of Farnham Royal, fl 1809.

jacksoniana. Prof. W. P. U. Jackson, endocrinologist, President of Bot. Soc. of S. Africa. b. 1918.

jacksonii (irbyana x retorta). T. Jackson's Nursery, Kingston, Surrey, by 1840.

jeppei. Dr. T. Jeppe, 1933.

'John McLaren' (mammosa). by 1980.

johnstoniana. Sir Harry H. Johnston, HM Commissioner in British Central Africa ?1858 - 1927.

jubana. by 1875.

junonia. Goddess Juno.

keetii. Dr. J. D. Keet 1882 - 1976, forester, finder. kennedyana. Lewis Kennedy 1775 - 1818, of Lee & Kennedy.

kingscottiana. by 1875.

'Kessler Früh' (gracilis). Julius Kessler, Delnenhorst, pre-1984. kraussiana. C. Ferdinand Krauss 1812 - 1890, of Stuttgart,

finder.

krigeae. A. M. Krige, 1908.

krookii. P. Krook, finder. fl. 1895.

krugeri. Fred J. Kruger, forester, finder, b. 1944.

'Kunst's Rot' (gracilis). M. Kunst 1958.

kunthii. C. S. Kunth 1788 - 1850.

## Recent Writings on Heathers, 1986

Anon. "Ian Willis and his St. Kilda Heathers", The Nurseryman and Garden Centre, 19th Sept. 1985.

The thriving Inverliever Nursery at Lochgilphead, housing also the St. Kilda collection of Callunas.

Anon. "Heather Nurseries get together", Horticultural World, 7th March, 1986, p.6

Berrydown, Forest Edge, Winchfield House and Windlesham

Court, founder members of the British heather Growers Association.

Anon. "Dopheide voor binnen", Groei & Bloei, 1986, No. 5, p. 42 Winter-flowering Cape Heaths.

Anon. "Calluna", Practical Gardening, Aug. 1986, p. 50. Good advice; good photo of 'Darkness'.

Anon. "Erica. Glockenheide", Mein schöner Garten, Aug. 1986, pp. 91 - 2.

A fine picture of white Calluna, the text on Erica gracilis.

Anon. "Clusiusleutel voor H. J. van de Laar", Groie & Bloei, Dec. 1986, p. 48.

An encomium on our distinguished member on being presented with this coveted award.

Anon. "Work in December", Bloei & Groei, Dec. 1986, p. 48.

Advice on covering with conifer branches or straw for the winter Erica cinerea, E. vagans, E. x watsonii and E. arborea.

Anon. Berry-bearing moorland plants (pp.53)5); Heather mixture (pp.56-9). In "The High Kingdom", Readers Digest, 1986.

Re-hashes of the garbled articles, originally by D. McC., in *The Living Countryside* in 1983. The former has Alpine Bearberry labelled as the berry-less *Phyllodoce*. Text otherwise, and pictures, good.

Anon. "Dabaoecia cantabrica (Huds.)C. Koch dans le sud-armoricain", Index Seminum, Ville de Nantes, 1986, pp. 17 - 19.

Discusses its distribution, ecology and associates, plus a drawing, photograph, map and bibliography, the last incomplete.

Allen, O. E., "Hardy (and not so hardy) heaths and heathers", Horticulture,

Oct. 1986, pp. 46 - 53.

A good account, mostly from the lips of Jim Cross of Long Island. In addition, p. 67 lists eight heather nurseries in USA.

Anderton, S., "Heather Gardening", The Garden, 1986, Vol. 111, No. 2, pp. 62 - 7.

Different ways of using heathers.

- Askjaer, S. A., "Andromeda", Tradgardsamatoren, 1986, No. 4, pp. 80 1. With photos of 'Nana' and 'Macrophylla'.
- Ball, G., "Increase your heathers", Practical Gardening, Aug. 1986, p. 51. Good advice.
- Baxendale, M., "Fine weather heaths", Amateur Gardening, 7th June 1986, pp. 22 3.

Mainly long-flowering summer cvs.

Bloom, Adrian, "Erica carnea 'Myretoun Ruby' ", Garden News, 18th Jan. 1986, p. 28

Praise, at some length, plus mention of other cvs.

Bloom, Adrian, "Heathers and Conifers under attack", Amateur Gardening, 22nd March, 1986, pp 24-5.

"A garden without heathers and dwarf conifers would be a much poorer one". A. Titchmarsh begs to differ (cf p.73).

Buttenschøn, J. and Buttenschøn, R. M., "Heathland regeneration following cropping with the forage harvester", *Natura Jutlandica*, 1985, Vol. 21, No. 12, pp. 201 - 8.

Vegetative regeneration favoured by high - 15 cm - cutting, by cutting in spring and by the removal of cuttings.

Collaert, J. P., "Cinq bruyères pour neuf mois de floraison", L'Ami des Jardins, Feb. 1986, No. 720, pp. 12 - 3.

A curious choice, each illustrated in colour; but surely the artist never saw the originals fresh, if at all.

Amaral Franco, J., Erica, Calluna and Daboecia in Nova Flora de Portugal, 1984, Lisbon, pp. 3 - 9.

Flora Europaea narrowed to the plants to be found in Portugal, which includes the Azores.

- Fortgens, G., Maas, W. and Molenaar, W.H., (Tree nursery subjects as house plants), Vakblad voor Bloemisterij, 1985, Vol. 40, No. 26, pp. 36 7.

  Loss of foliage colour due to low light intensity was the problem with Calluna cvs.
- Garratt, B. and McClintock, D., "Miss Waterer of Eden Valley", The Cornish Garden, 1986, No. 29, pp. 41 7.

Reprint of the article in the 1985 Year Book, plus a footnote from Mrs. Shaw.

Greuter, W., Burdet, H. M. and Long, G., Mediterranean Checklist 3, 1986, Geneva.

Lists the distribution of *Bruckenthalia*, *Calluna*, *Daboecia* and *Erica* in 27 territories - those bordering the Mediterranean plus Portugal, Bulgaria, the Crimea and Jordan.

Grimstad, S. O., (Effects of giberellic acid, temperature and storage on seed germination of heather (Calluna vulgaris), Meldingen fra Norges Landbrukshogskole, 1985, Vol. 64, No. 2.

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100% germination after 18 .- 24 days of treated seed; only 19% of untreated. Optimum temperature for treated seed 21°C by day, 24° by night. Storage had no effect on rate of germination.

Guerrier, G., Viemont, J-D. and Beaujard, F., "I. Developpement et contente minéral des vitroplants transfers", *Plant & Soil*, 1985, Vol. 84, No. 3, pp. 332 - 336.

Studies on perlite nutrient media for two months.

Guerrier, G., Beaujard, F. and Viémont, J-D., "II. Relations entre les fractions libres azotées et les capacités nitrate reductase et glutinate dehydrogenase", ibid, pp. 337 - 345.

Another two-month study.

Guinochet, M. and de Vilmorin, R., Flora de France, Supplement 4, 1982, CRNS. Calluna p. 1331; Daboecia pp. 1335 - 6; Andromeda p. 1337; Erica pp. 1340 - 5.

Descriptions, plant associations, distribution, very clear

drawings; no hybrids or vars; two keys for Erica, vegetative and floral.

GUS, Cartoon on the BHGA, The Grower, 3rd April 1986, p. 2.

Guyton, A., "Practical Planting, soft edges, heather", Practical Gardening, Dec. 1986, p. 25.

On E. cinerea 'Stephen Davis' with a colour photograph.

Henson, J. and Carr, D., in All About Ground Cover, 1986, Foulsham; Calluna p.43; Erica p.54.

Pictures of white Calluna and white E. vagans. Text could be better.

Hesse, M., "Hemispheric surface processes of exine and orbicules in *Calluna* (Ericaceae)", *Grana*, 1985, Vol. 24, No. 2, pp. 93-8.

Pollen.

Hoekert, H., "Tweejarige teelt Calluna loont niet", Vakblad voor de Bloemisterij, 1986, No31, pp.36 - 7.

Views on developments in production.

Howard, J., "A short border with a long season", Horticulture, Oct. 1986, pp. 51 - 2.

How a field hand from Sylvan Nursery built a heather bed.

Jackel, G., "Grundwasser-ganglinien unter verschiedenen Planzengesellschaften in nord-west deutschen Heidemooren", Tuexenia, 1986, No. 6, 195 - 204.

The subtle gradients in the ground water that control the various plant associations, eg with E. tetralix.

Johansson, B., "Om vadan av omkastade vokaler", Trädgårdsamatören, 1986, No. 2, pp. 32 - 3.

An account of *Daboecia* (and its reversed vowels), based on the 1984 *Year Book* article.

Johansson, B., "Calluna", ibid. No. 3, p. 69.

Black and white photographs of mixed Callunas in pots in Japan.

Krekwerth, R. A., "Wo einst der Fuchs an Weltschmerz starb", Mein schöner Garten, 1986, No. 10, pp. 93 - 6.

Two fine photographs of a heather moor in flower, with a good account of one in Emsland, NW Germany.

Lange, J., "Lyngen Fortaeller", Haven, 1986, Vol. 86, No. 9, pp. 508 - 11.
Mostly on names connected with heathland. But does Ling derive from a word meaning "singing"?

- Lütken, E., "Dyrkning af lyng i have", Haven, 1986, Vol. 86, No. 12, pp. 660-4.
  A good general account by our member with his colour photographs of nice groups of 'Allegro', 'C. D. Eason', 'P. S. Patrick', 'Radnor', and probably, E. cinerea' 'Alba Major'.
- McClintock, D., "Harmonising botanical and cultivar classification with special reference to hardy heathers", Acta Horticulturae, 1986, No. 182, pp. 277-83.
  - The paper delivered at Wageningen in 1985 including the formal publication of *E. tetralix* f. stallata (cf. P. 18).
- Müller-Schneider, P., "Verbreitungsbiologie der Blutenpflanzen Graubundens", Veröffentlingen des geobotanischen Instituts ... Rübel. Notes on the fruits and methods of dispersal of Calluna and E. carnea.
- Nelson, E. C., "New cultivars of *Erica* and *Daboecia* ...", *Moorea*, 1986, Vol. 55 pp. 19 20.
  - E. cinerea 'Kerry Cherry' and D. cantabrica 'Doris Findlater', their stories and descriptions.
- Nelson, E. C., "Heathers from Carryduff for limestone pavements", Home Gardening, Sept. 1986, pp. 18 - 19.
  - J. W. Porter's heathers.
- Nelson, E. C., "Woolly Bears devour Dorset Heath in Ireland", BSBI News, 1986, Vol. 44, p. 14.
  - Caterpillars of the Fox Moth grazing Ireland's rarest heath, a protected species.
- Oliver, E. G. H., "The Identity of *Erica vinacea* and notes on hybridisation in *Erica*", *Bothalia*, 1986, Vol. 16, No. 1, pp. 35 8.
  - Probably E. fastigiata x E. fervida, yet these have quite different pollinating agents. Fifteen other natural hybrids are listed.
- Pudshoorn, W., "Afwisseling in de heidetuin", Groei & Bloei, Sept. 1986, pp. 26 7.
  - On Daboecia, good as far as it could go, but the photograph of "Atropurpurea" is of a normal coloured plants.
- Pearson, R., "Heather Bright", Daily Telegraph, 27th July 1986.
  - OK.
- Persson, A., "En liten orientering om surmarksväxterna Calluna och Erica", Trädsgärdsamatören. 1986. No. 2. p. 31.
  - Some general comments, including a drawing of 'Harlequin' by Mrs. Johansson.
- Polunin, O. and Walters, M., A Guide to the Vegetation of Britain and Europe, 1985, Oxford University Press.
  - Includes beautiful drawings of Bruckenthalia, Calluna, Daboecia, 15 Ericas and a distribution map of *E. tetralix*, *E. scoparia* called "Green heath".
- Rachman, O., The History of the Countryside, 1986, Dent.
  - Chapters 14 and 15 contain 45 stimulating pages on heathland and grassland.
- Rich, Ll., "Recladding the mountain", National Trust Magazine, 1986, No. 48, p. 28.
  - Re-introducing heather in Derbyshire with 10-inch cuttings with seed heads.

- Royle, D., "High profile heaths", Horticultural Week, 3rd Oct. 1986, pp. 24-5.
  The Kingfisher Nurseries, Spalding.
- Samftleben, H., "Baumschule Hatje, Tornesch-Ahrenlohe/Holstein", *Deutsche Baumschule* 1986, No. 8, p. 319.

  The 50-year jubilee of the firm of Hatje.
- Sawyer, A., A Plant Buyer's Directory, 1986, Ebury Press, pp. 25, 96, 112, 181.

  Nice small depictions, including 'Foxhollow' and 'Lyoness', but 'Kinlochruel' "8-ins tall", E. carnea (in the autumn section with E. vagans) "30 45 cm."
- Storek, A. L., and Lebrun, J-P., Index de cartes de repartition des plants vasculaires d'Afrique 1935 81, 1981, Maisons Alport, Cedex.
  p. 20 Calluna, 9 refs; p. 35 E. arborea, 7 refs; p. 36 E. ciliaris, 3 refs; E. cinerea 1; E. multiflora 3; E. scoparia 1; E. sicula 1; E. terminalis 3.
- Strong, G., "Calluna", Practical Gardening, Aug. 1986, pp. 50 1. Good advice.
- Titchmarsh, A., "Getting the needle", Amateur Gardening, 30th Nov. 1986. "Leave dwarf conifers and heathers to the kids" but his diatribe is chiefly anti-conifer. (See also Bloom, p. 70).
- Turpin, P. G., "The Wild Heathers of the British Isles I", Wild Flower Magazine, 1986, No. 405, pp. 14 - 16.
  Covers Calluna, E. cinerea and E. tetralix as reliably as one would expect,

with clear line drawings by Mrs Olga Stewart.

- Turpin, P. G., "The Wild Heathers of the British Isles, II", ibid, 1986, No. 406 pp. 27 30.
  - E. ciliaris, E. vagans, E. x watsonii, E. x williamsii, E. lusitanica.
- Turpin, P. G., "The Wild Heathers of the British Isles, III", ibid No. 407, pp. 21 - 4.
  - E. erigena, E. mackaiana, E. x stuartii, E. terminalis and Daboecia cantabrica.
- Uotila, P. and Pellinen, K., "Chromosome numbers in vascular plants from Finland", Acta Botanica Fennica, 1985, No. 130, p. 17. Andromeda polifolia misquoted as 2n=c. 24; the source, Sousa 1963, had, correctly 2n = 48.
- van de Laar, H. J. Naamlijst van houtige Gewassen, 1986, Boskoop.

  Lists species, subspecies and cultivars of woody plants in Dutch nurseries with their correct spellings and synonymns Andromeda 8 cvs;

  Bruckenthalia 1; Calluna 248; Daboecia 28; E. arborea 4; E. australis 1;

  E. carnea 45; E. ciliaris 10; E. cinerea 90; E. x darleyensis 14; E. erigena 5; E. lusitanica 1E. mackaiana 6; E. x stuartii 5; E. terminalis 1; 2E. tetralix 20; E. vagans 24; E. x veitchii 3; E. watsonii 6; E. x williamsii 2.
- Viémont J-D. and Beaujard, F., "Les Bruyères in vitro, V monopode et sympode chez Erica x darleyensis Bean", Bull, Soc. bot. fr., 985, Vol. 132, pp. 65 - 70.
  - $E. \times darleyensis$  when grown under proper conditions has a rhythmic growth (with several annual flushes). Two patterns of ramification occur.

### THE HEATHER SOCIETY

Viémont J-D., Guerrier, G. and Beaujard, F., "Influence de la solutio nutritive dans la phase de reinsertion in vivo des vilroplantes d'Erica x darleyensis. 3. Developpment de l'appareil vegetatif, ibid., 1985, Vol. 132, No. 3, pp. 213 - 33.

The development of plants on perlite supplied with different concentrations of nutrient.

Welch, D. and Scott, D., "Further observations on a Callunaetum intensively grazed by mountain hares (*Lepidus timidus L.*)" Trans. Bot. Soc. Edinburgh, 1985, Vol. 44, No. 4, pp. 323 - 33.

Average height 10 cm 31 years after burning.

Woodsman (J. Street), "An elusive heather", Horticultural Week, 1986, Vol. 200, No. 24, p. 16.

On E. arborea 'Alpina', which "seems to have disappeared"!

There have also been useful articles, too many to add to the list here, in our contemporaries *Ericultura*, *Der Heidegarten* and *Heather News*.

### YEAR BOOK 1987

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\*Further details in our advertisements. We thank these members for the support which they give to the Year Book.

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(R. Warner. S. Warner B.Sc. (Hort) M.I. Hort)

# Plants for heather gardens

Our policy is to grow all types of plants which we believe associate well with heathers, and which may be required to provide the complete heather garden — whether it is a single small bed or many acres in extent.

In furtherance of our policy we grow:

CONIFERS — over 400 varieties in various sizes — from Abies to Tsuga.

SHRUBS and TREES — over 300 varieties including extensive range of ericaceous subjects, and of course HEATHERS, more than 400 varieties selected from the 800 or so varieties of heathers in our garden and stockbeds and which are now available in three sizes; standard in 8cm<sup>2</sup> pots; larger size plants in 12.5cm pots and specimen size plants in 23cm pots.

**RETAIL OPENING HOURS:** The gardens (which extend to over an acre) and nursery are open every Friday, Saturday and Sunday from 9 a.m. until 7 p.m. (or earlier dusk)

(WHOLESALE AND LANDSCAPE CUSTOMERS

Monday - Thursday please)

Dunwood Lane, Longsdon, Stoke-on-Trent

(Off A53, 3 miles west of Leek) Phone Leek (0538) 384310, 372111

SORRY, STRICTLY NO POSTAL TRADE

Plants are obtainable only by collection from the nursery

Once Robin Hood strolled this way, traffic's now taken up with Heather trade, to Crail Nurseries come to find, Heathers of many kinds.

244 varieties currently grown by the thousand to help satisfy the growing number of Heather enthusiasts.

Collections of 10 supplied by post

Visitors welcome by appointment.

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